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ORIGINAL ARTICLES.

ON THE RELATIVE VALUE OF MERCURY AND IODINE COMPOUNDS IN THE TREATMENT OF SYPHILIS.

Read at the opening of the Discussion in the Section of Dermatology and Syphilology, at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

BY L. DUNCAN BULKLEY, A.M., M.D.,
OF NEW YORK.

Syphilis is one of the most important diseases which afflict mankind, and the study of its various aspects and conditions is one of the most interesting which can engage human thought. The pathology of syphilis, in all its stages, reaches deeper than that of any other known disease, while its symptomatology may at times extend into the domain of innumerable other affections; it may stimulate in certain cases, in various organs, a great variety of diseased conditions, and may complicate a still larger number.

In opening briefly a discussion of the treatment of syphilis it is evident, therefore, that we cannot at all enter into the subject of the disease itself, nor of the treatment of all the various aspects and phases presented by the same; and, therefore, from the nature of the case it will be difficult to deal with the question before us as fully and accurately as could be desired. But, on the other hand, the indications for treatment vary so greatly at different stages of the disease and in different individuals, that any discussion of the relative value of mercury and iodine compounds in syphilis must take into consideration, to a greater or less extent, other factors than simply the existence of syphilis in the subject to be treated. In other words, "the treatment of syphilis" has two aspects: first as to the treatment of the disease itself, the nullification of the poison with which the system has become infected; and, second, as to the treatment of the diseased condition, or the particular manifestation of the action of the poison, in some special organ or part of the body at a particular time; it is upon the recognition of these two aspects of the question that a sound therapeusis of syphilis must rest.

Now as regards the treatment of the disease itself, the neutralization of the poison, so that it cannot be again communicated to another, or be transmitted to offspring, the opinion of modern observers agrees, I think, that mercury alone possesses the true anti-syphilitic power, while iodine and its preparations exert very little if any influence in this direction; that is, that in the acute, infectious period of syphilis the latter if used alone could not control the development of the disease, nor hinder or check its contagious properties, whereas mercury does possess this power in a striking, although not always in an absolute and perfectly satisfactory degree.

In regard, however, to the effect of iodine and its compounds upon many of the lesions of syphilis there can be no question whatever, indeed they are often absolutely indispensible in the treatment of syphilis in some of its stages or manifestations, and in many instances, especially in syphilis of the nervous system and of some of the internal organs, they alone can rescue the patient from impending death.

What, then, are the indications for the use of these two powerful remedies in syphilis, for that I believe is the direction which our discussion should take, rather than as to the *relative* value of the two drugs; both are equally valuable, each to serve their particular end, while their combination will be more often even more serviceable than either alone. We can really no more speak of the relative value of mercury and iodine in syphilis than we can of the relative value of the two portions of a pair of scissors; alone each may be of value to a certain degree, but together, when properly used, they form an instrument which will sever the Gordian knot, and solve the often difficult problem of the proper cure for certain lesions of syphilis. It will be understood that I am here arguing for the well-known *mixed treatment of syphilis;* this I think, (and see from experience in cases which have been treated by others) is far too often neglected in favor of the plan advocated by some writers, of using each remedy separately.

But, although I have just spoken, and wish to speak, strongly in favor of a mixed treatment in many cases of syphilis, especially in the later stages, I also recognize the fact that there are periods and conditions of the disease when mercury

or iodine may be best used alone; these we will briefly consider.

During the very early stages of syphilis iodine, with its compounds seems to exert very little effect, whereas the results following an active and efficient mercurial course are often most striking and satisfactory.

When by a well defined hardening, or by marked local or general adenopathy, or by an early eruption, or by confrontation or other means, the diagnosis of a primary sore, or true chancre of syphilis is determined with certainty, an active mercurial course should be at once instituted, and iodine is uncalled for, and some think it to be harmful. The simplest, and in many respects the best treatment is then by means of the grey powder of mercury and chalk, which can be conveniently administered in one grain tablets. These may be given, one every two hours, or even two at a time, until the effect of the mercury is seen, either in the rapid healing of the chancre, or in the subsidence of other symptoms, or, until a slight mercurial influence has been obtained in the mouth; the dose may then be lowered, by giving it every three or four hours. If now, the individual seems to resist the effect of the drug, the strength of the mercurial treatment can be increased by the addition of a few mercurial inunctions, or an occasional mercurial vapor bath. It is needless to say that all this should be carried far short of any actual salivation, and with the appearance of any marked tenderness of the gums or excessive flow of saliva, the doses of the mercury should be reduced to one-half, and then in a few days be slowly increased; salivation, if it be at all severe, rather hinders the treatment. Careful attention to the mouth, and the free use of chlorate of potash as a gargle and mouth wash should never be forgotten: but, on the other hand, I must enter my protest against the practice advocated by some of having the teeth carefully gone over by the dentist as a prophylactic, for I can never think it justifiable to expose another, and perhaps many through him, to contagion from the abundant and infectious mucous patches liable to be found in the mouth at this early stage of syphilis.

Mercury used locally is also of the greatest value in the early period of syphilis, and calomel freely dusted on, or black wash kept freely applied, or a mercurial plaster over the chancre will do much to hasten its disappearance, and the arrest of the disease.

There are other means of using mercury for its general effect in this early period of syphilis the merits of which I can hardly discuss here. The bringing of the system under influence of the drug can be accomplished by frequent mercurial vapor baths, also by mercurial inunctions alone; likewise by the hypodermic injections of mercury and oil, or its various salts, as has been recommended by many: but, practically, in the majority of instances the drug can be introduced more pleasantly and quite as satisfactorily by the stomach, and my preference is decidedly for the grey powder, used as described, although the bichloride will often act kindly, though more prone to disagree with the stomach.

If now, the patient with syphilis remains faithful to this treatment, and the chancre heals soon, and other symptoms either fail to appear or are removed quickly, there is naturally no call for iodine or its preparations, although some would prefer to give a mercurial combined with iodine, the red or green iodide later in the course of the treatment; this, it will be understood, should, in accordance with the best modern views, be continued (with intermissions perhaps) for two years, or even longer, if troublesome symptoms or lesions have shown themselves.

We come now to consider the proper place for iodine and its combinations in the treatment of syphilis.

Unfortunately in but a small proportion of the cases of syphilis will the patient have had the satisfactory course alluded to above. For one reason or another, full and efficient treatment has not been carried out by the large majority of persons who have received syphilitic infection, and at varying periods in the course of the disease lesions of more or less troublesome and serious character will occur on the skin, mucous membranes in the bones, muscles, nervous system, viscera, or other portions of the body. It must be acknowledged also that in a certain number of individuals some of these graver manifestations of the disease will appear even during the course of and in spite of a thorough mercurial treatment, even quite early in the disease. If mercury is now given, and even pushed, for these more definite and serious manifestations of the disease, what is the result? They will often even increase in severity and extent, and the patient instead of being benefited is harmed in many respects by the treatment instituted and pressed ever so vigorously.

Now comes the action of iodine, which will sometimes seem almost miraculous; lesions which before had been stationary, or had even increased in severity will seem to melt away, and a disease which had before been rebellious, yields to medical skill and knowledge, and it may be that a life which before was threatened, is rescued, simply by the action of iodine or its compounds. This experience has been verified by numberless observers, and may occur to any one using the remedies properly when opportunity offers; this may, of course, very rarely happen to the general practitioner, but is not so very uncommon to the consultant or to one much occupied with syphilis.

Many writers advise the compounds of iodine to be given alone, unaccompanied by mercury, and the accounts of the enormous doses which have

been at times administered would astonish any one accustomed only to the ordinary dose of a few grains, as commonly prescribed. In certain rare and neglected cases, where grave nerve lesions from syphilis threaten life, such doses, running up into many hundred grains of the iodide of potassium daily, have undoubtedly saved life, and may be necessary; the remedy certainly should be pushed to the fullest extent possible when occasion seems to demand.

But, on the other hand, I am convinced, from not a small experience in syphilis, and from the results in my share of grave and threatening cases, that these exceedingly large doses are rarely if ever required, provided that other means are intelligently and judiciously employed; in other words, I believe that even in the latest stages of syphilis, and in its gravest manifestations, a certain amount of mercury will certainly aid in overcoming the disease and in removing the lesions. I know full well that in certain cases, and at certain times mercury will not be well borne, and the system will seem even to become lowered under its use: but there are very rare instances, and if combined with proper bitter tonics and iron, mercury can be borne and will aid in the treatment of all stages of syphilis. But, of course, it must be used carefully and judiciously in those of broken down habit, and often other remedies, mineral acids, etc., are required to secure the best results.

My more common method of treatment of the later manifestations of syphilis is by means of the old mixed treatment, where a minute dose of mercury is combined with a moderate dose of an iodide, with iron and a bitter tonic; if the symptoms do not yield, the active elements of the treatment are increased until the desired effect is produced. The mercury in the mixture is first slowly increased, $\frac{1}{12}$ of a grain of the bichloride of mercury, to $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{12}$, or possibly more; this is especially the case in lesions occuring during the first year or two after infection. For lesions occurring later in the disease, or when others still prove rebellious, the amount of the iodide is increased, the other features of the treatment remaining the same; or possibly being also added to.

Thus, the mixed treatment being continued after each meal, a watery solution of the iodide of potassium, sodium, or ammonium, or a combination of them, is given in Vichy water, *between* the meals, beginning, say, with fifteen grains three times daily, and augmenting the dose daily, until the symptoms yield; in some instances the syrup of hydriodic acid between meals will act better, or the compound liquor iodi, or the iodide of starch may be employed.

If early in the disease, and the mercurial element seems to be required, the mixed treatment may be added to by means of occasional mercurial baths or inunctions. But, personally, I have not been satisfied with the plan of giving a mixed treatment by means of administering the mercury and iodide entirely separate, as advised by some writers; I feel confident that better results can be obtained by combining them together in proper proportions in one dose, and then augmenting the strength of one or the other element, in the manner above described, to meet the indications of the case.

My remarks have been somewhat personal, in opening this discussion, but I trust that they will be taken as intended, as a contribution of experience and opinion to this most interesting subject. If each will contribute his personal mite it will be better than if the impersonal opinion of others was quoted.

FIVE CASES OF REMOVAL OF THE JAW FOR TUMOR.

Read in the Section of Dental and Oral Surgery, at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.

BY WILLIAM D. HAMILTON, M.D.,
OF COLUMBUS, OHIO.

The cases that form the subject of this paper have come under the observation of the writer in his service at the Mount Carmel Hospital within the past three years. Three had to do with the superior and the remaining two with the inferior maxilla. There were four females and one male. The youngest patient was twelve, the eldest fifty-five years of age.

In conversation with the eminent surgeon, Mr. Thornley Stoker, of Dublin, last summer, it was learned that one of his patients for whom he had recently extirpated the upper jaw for sarcomatous disease was a woman eighty years old. A still more interesting fact was elicited: that she was discharged from the hospital cured in a fortnight.

Cases of epithelioma beginning in the soft parts will not be herein considered. In this department of oral surgery we are confronted with certain facts at the outset: 1. Difficulty in maintaining anæsthesia; 2. The impracticability of observing with nicety antiseptic details; 3. The tendency to hæmorrhage and shock.

It is to be hoped that rectal anæsthesia will some day be reduced to a practical method, so that an irritating fluid like ether may be prevented from entering the bowel in the liquid state, where it excites such great disturbance, or even perhaps a fatal bloody diarrhœa.

The renewal of the anæsthetic on account of the returning consciousness of a patient upon whom such an operation is being performed is a most embarrassing and pathetic necessity. It frequently means the occurrence of vomiting and the loss of invaluable time. The resort to a preliminary tracheotomy, while possessing certain advantages as a mode of administration, is by no

means free from danger to the lungs and air passages which it is intended to protect, while its performance must add materially to the shock.

Unfortunately the mouth is frequently found to be in an unwholesome condition. The irregularities of the growth, which may prevent separation and closure of the jaws, the occasional existence of a foul ulcer, that has been teased and irritated by opposing teeth, the numerous hiding places for septic matter in such a cavity—all these considerations make it a trap for filth and enhance the difficulty of preventing suppuration. It is all the more incumbent upon the surgeon, however, to aim at thorough cleanliness. There should be liberal irrigations with a harmless antiseptic lotion like boracic acid in an aqueous solution, and in this way all removable matter disposed of in the five days prior to operation.

The strict observance of extrinsic antiseptic details is as clearly imperative in this as in other surgical procedures.

As a preliminary step, with a view to preventing hæmorrhage in removing some of these growths, the common or external carotid artery has been tied. While benefit may sometimes be derived from it, preparatory delagation was not seriously contemplated in any of the cases enumerated. In dealing with the facial artery and vein, the knife was carried quickly down to the bone dividing them clean at one stroke. Their prompt seizure with hæmostatic forceps prevents the loss of much blood and simplifies the operation. Digital pressure by an assistant is available during their isolation.

With reference to shock it may be said that time is a most important element. In order to minimize the duration of the ordeal, scrupulous care should be taken to have a simple reliable armamentarium at hand consisting of strong instruments in perfect condition. For completing the division of bone, a pair of powerful straight pliers with short jaws and long handles, giving great leverage, is invaluable.

For ligating vessels, properly prepared silk is preferable. A precaution that should never be neglected is to transfix the tongue with a coarse silk thread; the ends being tied together should be held by an assistant. It is perhaps needless to observe that anæsthesia should be *very profound* before beginning.

Again it is a rule applying to all such undertakings, to postpone entering the cavity of the mouth as long as is consistent with method. Therefore the bone should be freed as extensively as may be before the mucous membrane is divided. In this way blood can often be kept outside of the throat until the operation is wellnigh completed.

Case 1.—Adeno-Sarcoma of Lower Jaw; Removal of Left Half of Bone; Recovery.

Miss N. M., sent by Dr. A. M. Dent, of Coshocton, Ohio, was 27 years old when first seen by the writer. In July, 1884, she ran against the edge of a door in the dark and the left side of the face was struck. Some swelling followed which never receded. From the time of the injury until September, 1888, when she was admitted to the hospital, her face grew larger. The disease first appeared in front of the left masseter muscle and the contiguous portion of bone gradually became implicated. She stated that it had grown more rapidly since October, 1887, than during the preceding two years. A slight oral hæmorrhage took place then and pain had annoyed her most of the time since. The latter was attributable to the continual bruising of the tumor by the upper teeth. A surgeon having been consulted some months previously, had incised and scraped the prominent outer surface of the jaw, and with negative results. The month preceding the second operation had been of rapid progress of the growth. Painful sores existed where the upper teeth impinged upon it. The left side of the face had a rounded appearance, the cheek being prominently bulged outward. The mouth was encroached upon both posteriorly and toward the median line, so that it could only be opened for distance of seven-eighths of an inch. The ramus was extensively involved.

Operation, September 30, 1888. Dr. F. W. Blake and Dr. A. N. Dennison assisted. The usual incision was made and extended in the line of the old cicatrix. A clear exposure of the bone being thus secured, the dissection was completed with guarded scissors, care being taken to cut *on* the tumor throughout. While detaching it from the cheek, several sub-cepts of which it was partially composed, discharged their contents into the wound, the fluid being of a yellow, viscid character. The subsequent steps of the operation including the disarticulation and the median section with the saw were readily accomplished. Hæmorrhage was tolerably free but easily controlled. Interrupted silk sutures were used in uniting the mucous lining of the cheek, and continuous gut for the outside. A rubber drain was inserted at the most dependent point and allowed to remain for several days. Shock was well-marked but yielded promptly to proper measures. Some suppuration of the wound with febrile movement ensued and retarded her recovery. She was discharged four weeks later.

Microscopical examination showed it to be an adeno-sarcoma that had probably developed centrally, expanding the plates of the bone, parts of the growth having undergone cystic degeneration.

Case 2.—Osteo-Sarcoma of Right Upper Jaw; Excision; Recovery.

P. C., æt. 16, from Johnstown, Licking Co., Ohio, was sent by Dr. C. R. Lockwood of that place. He had always enjoyed good health. In the early part of 1884, the right side of his face

was seen to be getting larger, especially in the neighborhood of a defective upper molar tooth, from which the disease seemed to emanate. The growth was gradual until early in December, 1888. He entered the hospital February 8, 1889, at which time the right cheek was the seat of a prominence, extending laterally from the molar bone to the side of the nose, and vertically from the angle of the mouth to the floor of the orbit. The latter was lifted up and the right eye slightly elevated. The hard palate was moderately depressed. There was no sign of fluctuation at any point.

Diagnosis.—A tumor of the upper jaw which had of late taken on such rapid growth that removal was deemed advisable.

Operation.—February 11, 1888. The entire right upper jaw was excised by the external flap method. An incision began opposite the inner angle of the eye, going vertically downward, encircling the wing of the nose and through the lip in the median line. Following again the natural fold between the cheek and the lower lid, it proceeded along the rim of the orbital floor as far as the molar bone. The flap could then be readily raised and the cheek was reflected from within outwards, thus securing a good exposure of the tumor. An incisor tooth was then extracted, and the saw was carried through the hard palate and the alveolus of the missing tooth, the nose being pushed out of the way. A section of the nasal process of the upper jaw and molar bone followed, the latter line of division being continuous with the spheno-maxillary fissure. The bones were of ivory-like hardness, so that their division was very tedious and difficult. Large pliers were forced into the notches made by the saw, thus loosening the growth, so that the pterygoid process could be broken and the soft palate cut away. The patient behaved badly under ether, a large quantity of which was required. The extreme hardness of the bones and the time consumed in dealing with them added to the delay. The wound was dusted with iodoform, and stitched with gut inside and out and no drain was used. The shock was very profound. Evidently considerable concealed hæmorrhage had occurred for the patient vomited a large amount of clots and bloody fluid. The lower extremities were elevated and injections of warm water and brandy were frequently given. Hypodermics of morphia and brandy were resorted to, dry heat was liberally applied and after two hours of persistent effort, vomiting ushered in reaction. Union was tolerably firm in 30 hours and his convalescence was uneventful.

Case 3.—Large Round-Celled Sarcoma of Right Upper Jaw; Excision; Recovery.

Mrs. M. A. T., æt. 55. Residence, Napoleon, Henry Co., Ohio. In July, 1888, a swelling was first observed over the right molar bone, which continued to grow until February 27, 1889, the date of her admission. Had had nose-bleed once, a month before. Her health had always been good, and the growth was only slightly painful. The physical alterations and the change in facial expression were about such as were seen in Case 2.

In view of the rapid development of the tumor, excision was advised and was done March 2, 1889. Aside from the fact that the incision was longer, the plan adopted was the same as that in Case 2. Much less difficulty was experienced in making the sections than in the former case, the bones being much softer. The wound having been carefully sutured, neat apposition was secured. External hæmorrhage was very slight. One-third of a pint of clotted blood was vomited after the completion of the operation. Shock was hardly appreciable and the pulse, although somewhat weak, was slow and regular. She passed a good night, and after the first week had no febrile disturbance. She was discharged March 24, three weeks after the operation.

Case 4.—Sarcoma of Left Upper Jaw; Excision; Recovery.

Gertrude W., æt. 12, brought by Dr. Chambers, Dentist, from Newark, Ohio. Eighteen months before, when cutting a molar tooth, she had observed that her left cheek was prominent. Two months before entering, she had had a single nose-bleed. She was in good general health. The floor of the orbit was elevated by the growth, and the left side of the nose somewhat smaller and crowded forward. The roof of the mouth was depressed on the side involved. On November 6, 1889, the external flap operation was done in the usual manner. She had no unpleasant symptoms and was discharged well in a fortnight.

Case 5.—Recurrent (Myrtoid or Giant Cell) Sarcoma of Lower Jaw; Excision of Right Half; Recovery.

Mrs. A. W., æt. 36. Residence Corning, Perry Co., Ohio. In 1875 she had undergone an operation for epulis of the lower jaw, in which several teeth with their alveoli were removed. Suspicions of recurrence were aroused early in November, 1889, and she entered the hospital three weeks later. A growth, central to the right maxilla had evidently started at or near the angle, causing the bony plates to spread. It was growing forward on the body and upward on the ramus. It had of late become painful, and excision was advised and done on November 30, in the usual manner. The anterior section was easily accomplished, as only the rim had been left when the epulis had been ablated. Care was observed in securing the vessels, but notwithstanding this fact, persistent and rather free secondary hæmorrhage occurred during the night following the operation, which necessitated the removal of a few stitches and reopening the wound. No vessel of appreciable size could be

found, however, and Monsell's solution was applied. An opening was left for drainage and for the escape of sloughing particles. The bleeding never recurred and the wound healed nicely by granulation. She was discharged in three weeks.

The original disease was epulis of a malignant type. The propriety of removal in cases of epulis is forcibly impressed upon us, and this had been thoroughly done by Dr. McGraw, of Detroit.

These cases and one already reported in the *New York Medical Journal* of May 10, 1887, in which a large tumor and half of the lower jaw were excised, make six in all: three of the superior and three of the inferior maxilla. If an apology be wanted for their presentation on this occasion, reference might be made to the fact that Dr. Deadrick, of Tennessee, in 1810, was the first to remove a portion of the lower jaw for tumor.

Reports of operations of the kind enumerated do not seem to be common nowadays. Whether it be on account of their infrequency, or because they are deemed unimportant, I cannot say.

While an experience such as that indicated is not sufficiently broad to justify one in dogmatizing, I suspect that the larger proportion of these cases can be successfully handled without the preliminary delegation or tracheotomy; that the best way to *do* them is to get *through* with them as quickly as is compatible with thoroughness.

All the patients are free from recurrence to-day.

ATYPIC HERPES ZOSTER GANGRENOSA, WITH REPORT OF TWO CASES.

Read in the Section of Dermatology and Syphilology at the Forty-first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

BY BENJ. MERRILL RICKETTS, PH.B., M.D.,

VISITING SURGEON FOR SKIN AND CANCEROUS DISEASES AND PLASTIC SURGERY TO GERMAN PROTESTANT AND CHRIST'S HOSPITAL, AND CONSULTING DERMATOLOGIST TO THE WOMAN'S HOSPITAL AND MED. COLLEGE.

I am somewhat at a loss to know just how to bring the subject of "Zoster" before you, in the most profitable manner, unless it be to report two cases of that form so seldom met with, even by the specialist, viz.: Herpes Zoster Gangrenosum.

This is the most intense of all forms, being characterized by the usual primary eruption following the usual premonitory symptoms which in character are also very severe.

The vesicular contents remain clear for three or four hours, gradually becoming a light wine color, then a greenish black, soon changing to a greenish brown; these color changes occur around the base of the vesicles, the area of which remains a pigmented brown color for some months.

Necrotic changes occur before the vesicles break, and crusts form immediately after their rupture; the duration of the vesicles may be from three to eight days, and the time of cicatrization is in proportion to the amount of sloughing that takes place. Kaposi says that if the suspected surface be touched early with nitrate of silver or iodine, the eruption will not appear, and that in every hæmorrhagic zoster the necrotic changes begin at the base of the affected spot.

Gangrene may appear in one or more vesicles, accompanied by pain and fever, the pain being of a neuralgic form and located throughout the distribution of any nerve, but oftener over that nerve with main branch nearest to seat of lesion.

The appearance of paresis or atrophy of muscles is not infrequent, nor is atrophy of hair or teeth infrequent, especially in the tissue diseased. Paralysis and atrophy occasionally occur when the eruption is situated in the territory of the trigeminus, or in upper nerves of the throat. Oculo-motor paralysis of zoster facialis and frontalis is sometimes met with.

As to the cause of this disease, there is much doubt, however in many cases it seems to have been in the intervertebrate ganglia, while in others it seems to be a neuritis or some peripheral disturbance. Thus far observers seem to feel that no treatment will retard or shorten the courses of this disease, hence it is a self-limited one.

Case 1.—Lena W., æt. 15, white, American, a nurse girl, brown eyes, dark brown hair, teeth good, height five feet two inches, weight 135, physique good, no glandular enlargement; menstruation regular; drinks beer, wine, coffee and tea; digestion good, bowels constipated, has considerable alopecia.

Small pimples appeared on the hands at 5 years of age, but they never gave any trouble whatever, and disappeared in a few days. At ten years the first characteristic eruption appeared on the chest the size of a three cent piece, and this gradually increased to six inches in diameter; two weeks later appeared in cheek, then on forehead; appetite at this time was poor, headache was severe, vomiting frequent.

Two months later a large patch, quite extensive, appeared on the inner side of the left leg, this was healed by means of simple remedies, and a similar patch appeared in the precise spot of the right leg.

Six weeks later an extensive eruption appeared upon each instep simultaneously; these increased to two and one-half inches in diameter, and in two weeks the inner surface of right knee and ankle was affected followed very soon by a similar condition of the corresponding position of left knee and ankle.

During the succeeding six months various eruptions, slight in character, reappeared over the spots previously healed, but the whole outer surface of the left leg became involved then; and four months later the affection was equally extensive and severe upon the right leg.

At 14 years of age she entered the Home of the Friendless in Cincinnati, she previously having lived out of the city and had come for treatment; her legs were still affected; sloughing had been extensive and was still present, and the integument entirely destroyed at that point.

Up to this time the body and arms had been entirely free, excepting the slight eruption on the chest at the very beginning four years previous. In last May she entered the German Protestant Hospital under my care; there had been a reappearance and entire healing of the affected parts of legs a number of times.

On the 10th of June there appeared three groups of vesicles upon the right side of the scalp, two upon the left side, and two on the scalp anteriorly, and five upon scalp posteriorly, all resulting in the destruction of the hair follicles affected; leaving white cicatrices from the size of a dime to that of a silver half-dollar.

On July 4, the back of both hands were affected to the extent of several inches, the left being the most extensive. On the following day there reappeared a patch four inches in diameter upon the inner left leg; this was healed entirely in two months.

July 10, there appeared large vesicles covering an area three inches in diameter on back of each forearm. August 3, she began to take kali iodidi grs. 60 each day, the dose being increased 20 grs. each succeeding day until 480 grs. were taken daily, this being reached August 26. She continued this amount until September 6, eleven days; then her mouth became sore and the amount was reduced to 250 grs., with the addition of ⅓ gr. bichloride.

The eruption reappeared upon the forearms September 6, and on outer angle of right elbow.

October 20, reappeared on back of left hand, and at this time iodide and bichloride were discontinued. During November, December and January, patient did not have any reappearance of the eruption, except an occasional very small patch of vesicles here and there over the cicatrices and their immediate tissues.

February 10, 1890, there reappeared a patch five by three inches upon the outer surface of right leg.

In November, all medicine was stopped and an effort made to keep the bowels open thoroughly with saline cathartics and enemas. She complains most of the time of bones aching, of obstinate constipation all of the time, sleeps well, appetite fair, never has vomiting nor chills, pain more or less in eyes.

About March 18, 1890, there appeared a group of vesicles leaving an ulceration about three inches wide and six inches long, upon the outer surface of left leg which is very slow in healing. It has an offensive odor and looks worse than any I have seen owing, perhaps, to having appeared upon the seat of an old lesion. The integument upon which the eruption appeared in this case would become gangrenous with a sharply defined border extending into the cellular tissue.

The time required for separation from healthy tissue varied from ten to fifteen days, an offensive odor being present from the time of the rupture of the vesicles. She has done better during the past seven months than any time since the first appearance of the disease. Up to November, 1889, she had taken mercury, arsenic, iodide potassium, iron, quinine, strychnine and belladonna, each having been given to its limit, without any appreciable effect or benefit; on the other hand the eruption would appear more frequently, more severe, and at the time of their full administration, so that with the two cases at hand, I cannot speak favorably upon any course of treatment.

However, I would suggest, and will in all succeeding cases, adopt a systematic course of curetting the diseased surface, as soon as the line of demarkation is established, that recovery may be hastened and offensiveness obviated.

Then, too, I would keep the bowels freely opened once or twice each day with warm water injections or saline cathartics.

Case 2.—Josephine M., æt. 14, German-American, a domestic, blue eyes and light hair, teeth fair, height 5 ft. and 3 in., weight 140, physique very good; no glandular enlargement, menstruation not yet established, but premonitory symptoms present, drinks beer, wine, coffee and tea; digestion good. Came to me with an irregular colored crust upon each cheek, about the size of a silver half-dollar; one upon the anterior surface of the middle third of each forearm, the size of a silver dollar, and another upon the anterior surface of middle third of each leg; all of these appeared forty-eight hours previous, within a few hours of each other. She stated that this was the third time that she had ever had any skin disease, and that the three attacks were similar in duration, location and character, and had all occurred within the past year. Pain of a burning character, tenderness in the affected parts, headache, tongue coated, constipation, hyperemia of conjunctiva, indicated the possibility of a previous fever, during the early stages of the disease.

I sent her to the German Protestant Hospital, where she improved very rapidly, and left for home at the end of a week, but was not entirely well as the gangrenous spots were not cicatrized yet. Nothing was heard of her until May 1, when she returned with another attack, upon the surfaces before attacked, with the exception of those upon the cheeks.

In each of the foregoing cases, the disease appeared long before the menstrual period; became very much worse just before, during and after the

first few menstruations, and were accompanied by hysteria, varying in degree with the severity of the disease. These are symptoms all of which Kaposi mentions as special features found in favor of the five cases in which he has made observations.

"The Trinidad," 137 Broadway.

THE OCULAR SYMPTOMS OF BRIGHT'S DISEASE.

Read before the Kings County Medical Association, Brooklyn, N. Y. November 8, 1889.

BY L. A. W. ALLEMAN, M.A., M.D.,
OF BROOKLYN, N. Y.

There are some diseases which always present profitable subjects for consideration; they never grow old, never uninteresting. In the light of ever varying and broadening experience, some old and familiar fact possesses a new and vital interest. Some facts, indeed, we have heard so constantly that we have grown deaf to them by their very repetition, till some emergency makes us eagerly strive to summon them from the shadowy realm of half-forgetfulness. It is, therefore, with less reluctance that I ask your attention to a subject upon which I can hope to say nothing new, nothing original.

"The Ocular Symptoms of Bright's Disease" is, it seems to me, a subject, the importance of which it is hard to overestimate. In the eye, as nowhere else in the body, a nerve, arteries and veins are exposed to our view, a lens even being kindly provided to assist us in our examination. Here it is sometimes possible to read, as in an open book, the signs of vital deterioration, as shown by the condition of the arterial system, long before any other symptom gives warning of the impending danger.

It is not an infrequent occurrence that the ophthalmoscopic examination discloses a condition of the eye ground, which tells of serious renal lesions, in patients who believed themselves to be in perfect health, and sometimes fortunately this discovery is of incalculable benefit to our patients, as it may enable us to avert, or at least delay the threatened calamity.

In no disease unless, perhaps, we except intracranial disorders, has the ophthalmoscope proved itself so valuable an aid to diagnosis as in Bright's disease. Before the discovery of the ophthalmoscope, the eye symptoms in this disease were of little value and were little observed. In Bright's[1] book I find no mention of them, nor in Johnson's published in 1852. To-day, no author would think of treating this subject without special reference to the eye lesions, and as an example of the deserved prominence now given to these symptoms we may note that in Echhorst "the manifest symptoms of chronic interstitial nephritis" are said "To refer chiefly to the condition of the urine, the circulatory apparatus and ocular changes."

Before beginning the consideration of our subject proper, a word may not be amiss as to our understanding of the term Bright's disease.

In medicine, where we can have no settled authority, and where every man is more or less a law unto himself, very annoying confusion is apt to arise from the fact, that a given name of a disease will not call to the mind of any two men exactly the same complexus of symptoms. This is especially apt to be the case with the term, Bright's disease, for since the appearance of Bright's book, diseases differing most widely in cause, symptoms and pathology have been classed under this general head.

It would be quite beyond the scope of this paper to propose or adopt any classification of Bright's disease, but I think it will suffice, to prevent any misunderstanding in the present instance to say that I do not use the term, Bright's disease as synonymous with albuminuria.

It may seem to you quite unnecessary to say that I include under Bright's disease cases where no albumen can be found in the urine, yet it has not infrequently happened to me, having made a diagnosis of this disorder from an examination of the fundus of the eye, to be told by the physician in charge of the case, that there must be some mistake as no albumen could be found.

It is quite true that as a general rule, retinal affections are a late symptom of renal disease and that albumen is usually found in the urine when such retinal troubles are present. Yet I shall endeavor to show that this is by no means an invariable rule, and that examination for glasses, for example may end in the discovery of morbus Brightii.

It has been claimed, I think by Gall and Sutton, that chronic Bright's disease is a disease of the arterial system primarily, and I find that it is now quite common to use this term and chronic endartritis as synonymous.

Mahound recognizes three stages of the disease: First, the functional stage which is limited to the condition of high arterial pressure without organic changes in either the vascular system or the kidney. Second, chronic Bright's disease without nephritis the stage of organic changes in the vascular system. Third, chronic Bright's disease with nephritis the natural but by no means invariable termination of the disease.

The studies of DaCosta and Longstreth are of great interest in this connection. They find upon investigation changes in the renal nerve plexus and cardiac ganglia.

Our knowledge of the sympathetic system is at present so limited that we must accept with caution any theory founded on any but the firmest

[1] The Medical Reports.

basis of investigation; but to quote Dr. Meigs,[2] "from a purely theoretical point of view it is quite as reasonable to suppose that the morbid process might begin in the nervous system as in the lining of the arteries or elsewhere," and such an explanation would well account for some of the cases of optic neuritis met with in the disease.

The first symptom of Bright's disease which we will consider is uræmic amblyopia.

This disorder must not be confounded with visual disturbances depending upon retinal changes, for it is a condition characterized by sudden, partial or complete loss of sight with no corresponding ophthalmoscopic lesion.

Since the introduction of the ophthalmoscope, amblyopia and amaurosis occupy a much less prominent position in ophthalmic diagnosis than formerly, but in all forms of renal disease, amblyopia may occur, the condition which has been humorously described as when neither the patient nor the physician can see anything. The severity of this symptom may vary all the way from transient dimness, swimming and uncertainty of vision, to absolute blindness. Total blindness, of sudden onset and transient duration, is so rarely met with as to be but seldom mentioned.

Dr. Cocks[3] has reported three cases, which seem of sufficient interest to justify a brief review.

The first case was that of a boy of twelve, who was seized with what was believed to be an epileptic convulsion. He was first seen by Dr. Cocks when just arousing from the stupor following the convulsion, which was uræmic, and then complained that he could not see. The following day, a careful ophthalmoscopic examination was made. The sight was entirely gone, he could not even perceive the light thrown in the eye by the mirror of the ophthalmoscope. The pupils were widely dilated, but on the closest examination not the slightest organic lesion of the retina, choroid or nerve could be discovered. This condition continued for about thirty-six hours when light perception was noticed, and finally sight was perfectly restored, and so remained for some time, while under observation.

The second case was of a woman aged forty-five, who was suddenly taken with intense headache, complete loss of sight and finally unconsciousness. The examination of the fundus oculi was negative. The urine showed an abundance of albumen. She completely recovered, and about a year later had a similar attack, from which she also made a good recovery. The duration of the amblyopic symptoms was about ten days.

Case three is of interest as showing the not common condition of retinal œdema. Mrs. C., aged twenty, developed uræmic convulsions during her first pregnancy, at the seventh month, and was delivered while unconscious; the following day, when she partially aroused she was found to be nearly blind, being able only to distinguish the largest objects. An ophthalmoscopic examination revealed no lesion, save a slight œdema of the retina near the nerve. Three weeks later the sight was perfect.

Uræmic amblyopia is an affection of the nerve centers rather than of the eye proper. The poison which from a defective excretion has accumulated in the blood, overwhelms the nerve centers, and their function is temporarily suspended. Should the patient live till the poison can be eliminated, or till a tolerance can be established, the visual centers again resume their functions. The slight manifestations of this amblyopia, the dimness, the momentary loss of sight are most valuable danger signals, and by carefully watching for them in cases where we fear an attack of uræmic convulsion, we may be often forewarned, and it seems to me, that in all cases of pregnancy as well as in all cases of recognized kidney disease, the patient should be on the lookout for these visual disturbances, and the importance of at once summoning medical aid should they be discovered, fully explained. In this way much valuable time, moments upon which, perhaps, hang the life or death of the patient, could be saved.

The ocular symptoms occurring during pregnancy, in nephritis gravidarum, while not differing especially in appearance from those observed in other cases of nephritis, yet from the difference in cause and prognosis deserve a separate consideration. The difference is well pointed out by Weeks,[4] who says, "In the study of albuminuric retinitis it becomes apparent that, in regard to their etiology two classes of retinal disease are included in the present acceptance of the term.

One depends entirely on the condition of the blood brought about by an acute disease of the kidney, the kidney symptoms preceding the changes in the retina, the other depending on a general (systemic) diseased condition of the arteries, capillaries, and to a less extent, the veins, in which the ocular changes and symptoms may, and not infrequently do precede the kidney symptoms. To the first belongs the retinitis of pregnancy, scarlet fever, diphtheria, etc., and all forms of acute nephritis. The first may be termed an irritative nephritis, due to the effect of a morbific element on the kidney tissue. The latter a strangulative nephritis, in which the blood supply is cut off by arterial stenosis."

Obstetricians are by no means agreed as to the manner in which pregnancy produces renal disease, but be it due either to increased intra-abdominal pressure, to the increased arterial ten-

[2] Medical Record, Aug. 24, 1884.
[3] Medical News, March 24, 1888.
[4] Archives of Oph., xvii, 3.

sion, to renal anæmia, the result of reflex vasomotor spasm, or to any of the causes suggested, the fact remains that in Bright's disease developed by the pregnant state, there is not the same widespread degeneration present which characterizes the chronic forms of the disease, and this fact, taken with the increased recuperative power which follows pregnancy, makes the prognosis much more favorable than under other conditions.

I have at present under observation a patient who informs me that six months ago, after confinement, her vision was reduced to light perception, she has to-day nearly perfect vision ($\frac{20}{30}$ + in both eyes) and can read the finest print with ease. The opthalmoscope shows a healthy retina with a few white patches between the macula and nerve.

Another case recently observed, showing a surprising improvement in vision was a patient of Dr. Lindsay, of Huntingdon. This patient, Dr. Lindsay informs me, had an attack of acute Bright's, resulting in miscarriage in September, 1884. For about a month previous to this accident, eye symptoms were noticed, and for some eight weeks after, while confined to her bed, the patient was so blind as not to be able in full daylight to see anyone in the room, although they were but a few feet distant. For three or four months after her vision improved and has since then remained about the same. When I saw her last August her vision was $\frac{20}{30}$ in the right, $\frac{20}{200}$ + in the left, which with + 1.25 D. glass, can be brought up to $\frac{20}{30}$. The left eye deviates outward, and has done so since childhood, and was probably amblyopic before the attack. This visual result is quite surprising in view of the condition of the fundus. Both nerves are atropic, the arteries are much reduced in size and marked retinal changes are present about the macula, and between the macula and disc in both eyes. Albumen and casts are not discoverable in the urine and the patient's general condition is fairly good.

The question of the induction of premature labor for the preservation of vision is one of interest alike to the ophthalmic surgeon and to the obstetrician. Dr. R. G. Loring was, I believe, the first to urge this procedure for the preservation of vision alone. In practice this problem is not likely to present itself, for the eye symptoms calling for active interference are usually but a part—an index, as it were, pointing to the threatened uræmic convulsion; but were they the sole danger, I can conceive of no condition more imperatively demanding our intervention.

Granting that the induction of premature labor is ever a justifiable procedure, a proposition which I think few will dispute, under what circumstances can it be more necessary, than for the preservation of vision?

The love of life is the most deeply rooted of human instincts, and when called upon to decide in his own case, one might prefer even blindness to death; but in the case of another, where we can weigh the arguments more dispassionately, it seems to me that, except perhaps in rare instances, blindness is by far the more terrible affliction.

As the conclusion from a very interesting paper on the "Induction of Premature Labor, in Amaurosis and Amblyopia from Albuminuria in Pregnancy," Dr. Pooley says:

1. In all cases of pregnancy, not only should examinations of the urine be systematically made, but the eyes should be examined with the ophthalmoscope; since, in a large proportion of cases, where eye troubles exist, the patients make no complaint of disorders of vision. Frequently such troubles can be detected with the ophthalmoscope long before any disease of the kidney is shown in the urine.

2. In uræmic amaurosis, without changes in the eye visible to the ophthalmoscope, even should the usual accompanying symptoms, such as dizziness, nausea, and threatened convulsions, be absent, their supervention is soon to be anticipated, and the immediate induction of premature labor is indicated, without waiting until the life, as well as the sight of the patient is in danger.

3. In neuro retinitis the induction of premature labor is not only justifiable, but urgently demanded. In some instances it is called for even in the earlier months of pregnancy.

4. It is required in cases of eye trouble recurring in successive pregnancies.

5. A woman having once suffered in this way during pregnancy, the relationship of cause and effect should be fully explained, both to herself and her husband.

As an interesting example in support of the foregoing conclusions, we may cite a case reported by Fryer,[5] of a pregnant woman in whom a typical albuminuric retinitis, without hæmorrhage, was discovered in the sixth month. The urine was loaded with albumen, but no other symptoms of kidney lesion were present. Premature labor was advised, but deferred, and vision was reduced to mere perception of light. Premature labor was, however, finally induced, and health was restored, but complete blindness followed. The retinæ became normal in appearance, but the nerves were atrophic.

Dr. Loring, in a paper entitled "Premature Labor for the Prevention of Blindness,"[6] cites two cases which show the disastrous results which may follow from allowing pregnancy to proceed to full term in presence of this complication. In both cases vision was permanently injured, and in one there was nearly complete blindness. "Looking," says Loring, "at the serious results which follow non-intervention on the one hand, and the favorable results which are known to have followed an early termination of pregnancy on the other, there are cases in which it is not only justifiable, but imperative to induce premature labor for the preservation of vision."

Detachment of the retina may occur as a consequence of a Bright's disease, and is probably

[5] Kansas City Medical Index, July, 1888.
[6] N. Y. Med. Journal, January 20, 1883.

due, when present, to a serous effusion between the retina and choroid. Wadsworth[7] reports such a case in a pregnant woman at the eighth month. There was extensive detachment in both eyes, with choroidal changes. The retinæ became reattached and vision $\frac{1}{4}\frac{1}{5}$–$\frac{1}{3}\frac{1}{5}$ followed the induction of premature labor.

Changes in the retinal vessels, unattended by nephritic retinitis, are observed in Bright's disease. It is in these cases that an ophthalmoscopic examination is of great value in arriving at a correct diagnosis. If a sclerosed condition of the retinal vessels can be seen, it is fair to infer that a like change is present in other organs, but the converse does not hold good, for in many cases of chronic endarteritis, the changes in the vessels are not sufficient to be visible by the ophthalmoscope. The ophthalmoscopic picture in this condition varies greatly. In some cases, the vessel walls are to be seen as fine white lines bounding the arteries, and again the opacity may be sufficient to entirely obscure the red blood column, and white bands replace the usual appearance of the blood currents.

Gowers mentions this condition as present in Bright's disease. Harlan[8] cites a case presenting this condition treated in Wecker's clinic, and I remember to have seen, some time since, in the eye service of the Jefferson Hospital, a case where the retinal arteries were entirely sclerosed. If I remember correctly, in one eye no red arteries were visible, and the appearance of the white lines replacing the retinal arteries, sharply defined against the red ground of the fundus, was indeed striking, and reminded one of the branches of a tree as seen on a frosty morning.

Gowers emphasizes the importance of not confounding cases of arterial sclerosis with those cases of no pathological significance in which, "at a point where the vessels emerge from the disc, they are, the arteries especially, often surrounded by white tissue, sometimes like a cloud upon them, and from it prolongations may be traced along the chief vessels.

Aneurismal dilatation of the retinal vessels is also sometimes seen. I have at present an example of this rare condition complicating senile central choroiditis, in a gentleman, a private patient. At several places in the course of the larger retinal arteries, on or near the disc, dilatations are present, of about twice the size of the normal artery. I cannot detect any pulsation in these small aneurisms, even on pressure.

Neither albumen nor casts are present in this case, but the presence of these dilatations is of great interest as showing the possible presence of a like condition in the smaller arteries in other organs.

Two forms of aneurism are observed, according to Gowers: First. Of some size in the primary branches of the central artery on the disc. Second. Miliary aneurisms of the arterial twigs in the retina and of the smaller capillary vessels.[9]

Retinal hæmorrhages, although by no means distinctive of Bright's disease, are sometimes met with. They differ in number and appearance in different cases. They are of most frequent occurrence in the posterior part of the eye, and vary in size from the smallest discoverable dot to several times the disc diameter. When occurring in the inner layer of the retina, they present a peculiar striated flame-shaped appearance; when in the more external portion they are more sharply defined in extent and round or irregular in shape. They are due, when present in this condition, to degeneration of the retinal vessels, general high arterial tension, from the firm support of the inelastic coats of the eye, having little effect in determining them.

None of the foregoing ocular changes are pathognomonic of Bright's disease; they may be found in other conditions as well, and may be absent in well-marked cases of kidney disease, but when found in connection with such symptoms as hypertrophy of the left ventricle, an incompressible radial artery, urine of high specific gravity with or without albumen and casts, then the diagnosis is certain beyond question.

Of the ocular symptoms of Bright's disease, nephritic retinitis, also called albuminuric retinitis, is the one most frequently observed. This affection is, as a rule, an attendant of chronic kidney disease, and is a late symptom.

As previously stated, we may for convenience divide the cases presenting retinal disease into two classes, the irritative and the strangulative nephritis. The latter class is the one by far the oftener observed and, as the points wherein the former class of cases differ from it have been already pointed out, while considering nephritis gravidarum, the following description of the retinal symptoms will apply to both.

It is difficult to say even approximately in what proportion of cases of Bright's disease retinal changes are present. It has been estimated by different observers as occurring in from 6 to 30 per cent. The frequency with which this symptom is observed, as well as the type of case presenting it, will depend largely on the class of patients examined. As seen in the wards of a general hospital, in an eye hospital or in private practice, nephritic disease will present widely differing aspects. In the first instance cases with much œdema and highly albuminous urine are most frequently observed; in the other classes the disease manifests its chief symptoms through the nervous system, and headache, dizziness, dyspeptic symptoms and frequent micturition are complained of, and the attention of the patient is not

[7] Annual Med. Science, 1889.
[8] Trans. Am. Oph. Soc., 1886.
[9] Medical Ophthalmoscopy.

especially called to the condition of the kidneys. It is in such cases that the ophthalmoscope frequently discovers the renal origin of the symptoms. It is not, however, safe to say that retinal lesions are present with much greater frequency in these cases presenting few annoying symptoms, than in those in which such distressing manifestations as dropsy and dyspnœa are observed, for in the latter the severity of the other symptoms makes the patient indifferent to the condition of the eyes, and no examination of the fundus is made.

I have seen it stated by an eminent ophthalmic surgeon that in a London hospital where all cases of Bright's disease were systematically examined, 60 per cent. showed eye symptoms, but I have not been able to verify the statement. I believe that such a careful and systematic examination of a large number of cases would show retinal disease to be a surprisingly frequent complication.

Why, in Bright's disease, the retina should be so frequently and seriously involved, has never been explained to our entire satisfaction. The explanation may lie partly in the highly specialized, delicate nature of the retina, and partly in the fact that a pathological condition of the retina is more appreciable to the patient, and more easily observed by the physician than similar changes in other nervous tissue.

As to the method of production of retinal lesions, some may be explained by the altered condition of the blood. Changes in the retina corresponding to those found in other nervous tissue by Gall and Sutton have been suggested (Gowers), but the explanation most frequently adopted is, that these lesions are due to the altered condition of the retinal vessels. Dr. Carl, by a very careful study of the subject, has demonstrated a degenerated condition of the vessels in all the tissues of the eye, more especially in the retina and choroid, and affecting all the coats of the arteries save the intema. Weeks also supports this view.

"There is," says Weeks, "little or no inflammatory action involved, there is but little infiltration of leucocytes and increase of nuclei, and very little hyperplasia of connective tissue, such as we would expect to find in so chronic a condition if a true inflammation were present. Extravascular the condition usually is simply one of the escape of the blood from the vessels."

Retinal complications are not confined strictly to any period of life or to either sex. As tabulated by Schlesinger[10] the ages and sex varied as follows:

	Male.	Female.
From 1 to 10 years	1	—
" 10 " 20 "	3	8
" 20 " 30 "	5	3
" 30 " 40 "	7	2
" 50 " 70 "	12	1
Unknown	1	—
Total	29	14

being 67 per cent. males, 33 per cent. females, the majority of males being over 50, females at the age of sexual maturity. In the 103 cases presented by Bull[11] the age varied from 5 to 78 years and the sexes were about equally divided.

The degree to which vision is impaired ranges all the way from no noticeable loss of vision to almost complete blindness, and is sometimes surprisingly at variance with the ophthalmoscopic picture. In one of the most severe cases of neuro-retinitis I have ever seen, while I had carefully tested the vision shortly before the attack, I found V. = $\frac{4}{4}$ had been reduced but to $\frac{4}{8}$, which in a few days improved to $\frac{4}{6}$, with no corresponding improvement in the appearance of the fundus.

When the macula is damaged central vision may be lost, but this is not common. Hæmorrhages may, however, encircle the macula and cause an annular defect in the field (Gowers).

As to the symptoms observed, we may divide nephritic retinitis into two general types—the degenerative and the inflammatory.

The degenerative form is the most common, and the first changes noted are usually the appearance of small white spots in the retina, usually in the neighborhood of the macula. These white spots, caused by the degeneration of nerve fibres, are at first small and delicate, and are often arranged in a radiatory manner around the macula. As the disease progresses they may become larger and coalesce.

It may be well to observe here that care should be taken not to confound the early manifestations of nephritic retinitis with the small dots somewhat similar in appearance, but more yellow in color, which are sometimes seen in the eyes of old people and are probably due to some senile choroidal changes.

Hæmorrhages are present in the degenerative type with varying frequency. Sometimes none are observed, sometimes the smaller hæmorrhages are absorbed, leaving little or no trace, and fresh ones make their appearance. In some cases, the hæmorrhages are so conspicuous a feature of the disease as to lead to its designation as hæmorrhagic retinitis. Little or no disturbance of the nerve is noted in this type of the disease. Sometimes a slight blurring of its outline takes place, but no change presenting an inflammatory appearance.

In the inflammatory form, neuro-retinitis, the first change in the ophthalmoscopic appearance is probably an œdema of the retina—but this condition is rarely noted. When first seen, as a rule, the retina and nerve are hazy, the veins distended, and often so tortuous as to present a corkscrew appearance; the arteries are reduced in size. As the disease progresses the evidences of interference with the retinal circulation become

[10] Oph. Review, iv, 334.
[11] Trans. Am. Oph. Soc., 1886.

more marked. The nerve is swelled and the disc outlines blurred, while masses of exudation are seen in the retina; these may increase in size till they encircle the nerve with a wall, as it were, of exudation. Numerous hæmorrhages are present, and in the region of the macula, in typical cases, white shining spots are seen, radiating from the macula as a centre. The general infiltration of the nerve and retina and this peculiar arrangement of the white patches at the macula, are said to be pathognomonic of Bright's disease. In some cases the nerve is more seriously involved, presenting a papillitis with the typical woolly disc. These cases are sometimes spoken of as the neuritic type of the disease. It is not to our purpose to enter now into detail in describing the well-known ophthalmic picture of nephritic retinitis. As seen in practice the disease will present a great variety of deviations from the typical, and widely varying combination of symptoms.

As a rule, nephritic retinitis is always present in both eyes, one eye may be attacked first, but we may confidently expect its appearance in the second eye. To this rule there are some well authenticated exceptions. In Bull's cases, in ten of the 103, only one eye was involved, but he lays no stress on this fact, expecting its subsequent appearance in the other eye. Bales[11] reports a case in which a typical retinitis was present in one eye, the other being healthy. Weeks, in his paper before cited, gives a similar case, and Yvert[12] reports a most curious case in which unilateral albuminuric retinitis was shown post-mortem to exist with the absence of the kidney on the same side as the healthy eye. The case was one, according to Yvert, of typical nephritic retinitis with hæmorrhages and concentrically arranged degenerative changes about the macula. The kidney, renal vein, artery and nerve were absent on the right side, and on the left one kidney about double the normal size was found, which presented microscopically and macroscopically the lesions of parenchymatous nephritis.

Other cases are on record of this peculiar coincidence, for I can see no reason to consider it more than a coincidence.

In cases of retinal troubles in Bright's disease albumen is frequently found in the urine; it is also frequently absent. No doubt repeated and careful examinations would discover it in the majority of cases. Grand[13] presents thirteen cases in which the retinitis preceded the appearance of albumen in the urine. Delande and Trousseau each report three similar cases.

Cardiac hypertrophy is a very frequent attendant of the retinal disease—in all but three of Bull's 103 cases, it was either present or developed while under observation.

Retinal symptoms being most frequently found in cases of granular kidney as a late symptom, the prognosis as to life is necessarily bad.

Dr. Miley[14] considers the presence of such retinal changes in Bright's disease to affect the prognosis very much for the worse, the mortality in hospital cases among the affected being at least doubled, not one having lived eighteen months after the changes were observed. In Bull's cases, from which all cases due to scarlatina and pregnancy were excluded, of the 103, eighty-six had died—fifty-seven in one year, eighteen in two, six in three, four in four, one in six. Of the fifty-seven dying during the first year, thirty died in the first six months, and of the sixty-seven cases living, fourteen were seen for the first time within six months. In view of this very unfavorable prognosis as to life, the prognosis as to vision is of less importance. Vision is rarely entirely lost, and often slight improvement in the condition of the eye is noticed.

As to treatment no general proposition can be laid down. Treatment directed to the patient's general condition is indicated, and the eye symptoms should be met as they arise.

RECENT EXPERIENCE IN THE TREATMENT OF EXOPHTHALMIC GOITRE.

Read at the Meeting of the New York State Medical Association, October 23, 1890.

BY R. D. FERGUSON, M.D.,
OF TROY, N. Y.; SECRETARY OF THE ASSOCIATION.

Exophthalmic goitre is not a common disease, and yet not so rare as to render it a curiosity. Doubtless the large majority of physicians have had more or less experience in its treatment. If that experience has corresponded with my own, it would have been marked until a recent time by eminently unsatisfactory results, at least in the majority of cases. It is true that occasionally cases would be met which did not make rapid progress downward—cases in which the disease would remain stationary, or even an improvement take place—but until about two years ago it had been the conviction of the writer that but little encouragement could be given the victims of this disease, while the idea of a cure could rarely be entertained. The variety of treatment suggested and the contradictory statements of those treating on its therapeutics justified the conclusion that either the medication was eminently unsatisfactory or a variety of morbid conditions requiring differing treatment had come to be classed as exophthalmic goitre, and the therapeutical as well as the nosological differentiation remained to be made.

Though the disease is one with sufficiently well-defined characteristics to allow of ready

[11] Oph. Review, vii, 63.
[12] See Oph. Review, ii, 194.
[13] Annual Med. Science, 1888.
[14] Oph. Review, vii, 1863.

recognition, still errors of diagnosis may and doubtless do occur. The fact that enlargement of the thyroid body is not peculiar to this disease, and that a frequent pulse is attendant on a multitude of morbid conditions, furnishes us two-thirds of the diagnostic points as of common occurrence, and it is not unreasonable to suppose that occasionally prominence of the eyes may be added from causes not the same as the conditions determining the development of exophthalmic goitre. The conclusion that the condition is not at any rate a pathological unit has been strengthened, in the judgment of the writer, from the results of the use of digitalis, for in every instance in which he felt confident of the diagnosis, that drug not only failed to afford relief, but was apparently productive of injury. In this he found himself in accord with many to whose writings he has had access; and yet, occasionally, benefit or even a cure would be ascribed to digitalis.

Prior to 1888 his experience had been one of nearly uniform failure to relieve or benefit the patients suffering from this disease, at least so far as direct results from the agents prescribed could be fairly assumed; and this statement is made in connection with the fact that all therapeutical measures, including electricity, which had been recommended as useful, had been given thorough and persistent trial.

Being so thoroughly convinced of the inefficiency of our resources, it was with reluctance that the care of a pronounced case of the disease was undertaken in the autumn of 1887, and the husband of the patient was quite plainly given to understand that the result would probably be a failure to cure or even stay the progress of the malady.

The patient was a woman about 55 years of age, with notable exophthalmos, enlargement of the thyroid body, and a pulse from 110 to 120. She faithfully followed the treatment advised, which included tonics, aconite, belladonna, electricity in the form of the so-called central galvanization, digitalis, etc., but after several months she was so much worse as to be confined to her bed with a pulse rate of 120 to 150 and a discomfort in the cardiac region that prevented sufficient sleep, and at times seemed to reach the agony of an angina pectoris.

In deliberating on the course to be pursued in this case, it occurred to the writer that the rapid, forcible and occasionally tumultuous action of the heart, as well as the changes found in that organ in cases dead from the malady, would favor the idea of an increase in the resistance in the systemic arteries as one of the events of the disease, and as digitalis was believed to increase arterial tension it was concluded that that fact explained its failure to quiet the excited heart action.

The then new therapeutical agent, strophanthus, was said to lessen the resistance in the systemic circulation, and with that object in view its administration was begun. The patient at that time was in a pitable condition. She was unable to walk; in fact, every change of position brought on exceedingly uncomfortable, generally quite painful, sensations in the pericardia, and emaciation had advanced to an extreme degree, thereby emphasizing the exophthalmos. A measure of relief was manifest soon after commencing the use of strophanthus, which was some three or four months after the case was taken in charge.

As soon as a positive degree of improvement in the rate and quality of the pulse and the general condition of the patient was manifest, all treatment aside from the administration of iron, arsenic and strophanthus was omitted, and the improvement continued, till in about six months the pulse was reduced to 80, the patient was in every way comfortable, and able to take a fair amount of exercise without inconvenience.

By one of those curious coincidences of the observation within a short interval of time of a number of rather rare cases of disease, it fell to the writer's lot to see within a few months eight cases of the disease under consideration, and thereby quite an amount of clinical material was placed at his disposal.

One of the early cases was seen in consultation, and was the first instance of the disease ever seen by the attending physician. The patient was a woman, 41 years of age, with a pulse rate of 150, and with the usual dyspnœa. She was at once put on the strophanthus treatment and the improvement was rapid. A few weeks after this case was seen, and as another curious coincidence, the same physician brought to my office another case in a man 41 years of age. In this case the pulse was 130 and the dyspnœa on exercise was troublesome, but not as extreme as in the preceding case. He was placed on the same treatment and improvement was prompt. He continued the medicine for about ten months, except a few days, when he took spartein, but returned to the strophanthus under my advice. I examined him recently and found him in good health and with a pulse rate of 76 per minute.

It is not necessary for me to give details of all the cases, it being sufficient to state that the administration of strophanthus afforded relief and allowed a return to ordinary occupations in every instance excepting one, and in that case there was associated pulmonary disease, probably of a tuberculous character, which implied an unfavorable termination aside from the exophthalmic goitre. In this instance there was no improvement in any of the symptoms, the case passed from my observation and doubtless progressed to a fatal issue, though I have been unable to trace the history. Several of the cases

are still under observation, and I consider them still under treatment, for though they have improved so as to consider themselves in some instances as cured, in my own judgment the treatment should be continued with more or less regularity for a longer period of time. I have also excluded from my report some cases recently seen, and in some cases seen only once and that failed to keep me advised of their progress.

In no instance has either the exophthalmos or the goitre been entirely removed, and so far as the goitre is concerned I should not expect its removal, for where the enlargement has existed for some time it becomes of so dense or fibrous a consistence as to exclude the idea of its complete removal. So far as I could judge, however, there was a notable degree of improvement both in the exophthalmos and in the enlargement of the thyroid body, but it is manifestly difficult or even impossible to express in mathematical terms the changes in these features of the disease as can be done in the rate of the pulse. In the case of the heart, however, and in particular in the instance of the patient first cited, I was satisfied that not only were the rate and rhythm of the contractions favorably influenced, but there undoubtedly existed a dilatation of the left ventricle, which improved so as to leave no physical or symptomatic evidence of cardiac lesion.

Though recent pathological considerations tend to place exophthalmic goitre in the category of the neuroses, and to find the locus of its origin in that specially vital region—that neuropathic switch-board—the vicinity of the floor of the fourth ventricle, still the evidence is not such as to give us any clew concerning its etiology or treatment aside from what we can gather from clinical observations, and consequently there is no explanation to offer as to the method by which strophanthus affords relief, aside from the idea that first suggested its use, and that was to relieve an apparently overtaxed heart through the lessening of the resistance in the systemic circulation, which was claimed to be its action. This explanation may not be in full harmony with the results of physiological experiments, and particularly with what is known as Marey's law, that there is an inverse ratio between the arterial or general blood pressure and the rate of the pulse, the heart apparently being hastened in its rapidity when resistance is diminished, as would be the case in an ordinary piece of machinery.

While accepting in a general way the conclusions from physiological experiments, there are some claims made relative to the dynamics of the vascular system that fail to gain my assent, or at least to stand as explanations, and the disease under consideration is an instance, for in it the action of the heart more nearly resembles that which attends and follows violent physical exercise than any other condition with which it can be compared, and assuredly we will hardly concede that the rapid, violent and excited action of the heart in those who are climbing mountains is due to diminished arterial tone. Whether we are to consider arterial tone and systemic resistance as occasionally convertible terms is also a problem, though an intimate relationship is manifest. Incidentally it may be noted that the mystery and perplexity of some points in the physics of the circulation of the blood renders a climax in the claim made that blood-vessels may *actively dilate*, and thereby practically solve the problem of lifting oneself by the boot-straps.

If we grant the power of forcible dilation on the part of the blood-vessels, it is not difficult to understand that the range of change in vascular resistance from the tonic contraction of arteries to their active dilation, and consequent virtual suction effect, would be sufficient seriously to disturb the heart. A corresponding variation of resistance would be disastrous in a steam engine were it not for the "governor." But we are told the heart has such a "governor," and that it is located in the vicinity of that part of the medulla occupied by the restiform bodies. We will consent that physiological experiments seem to justify such a claim, though pathological observations have not so far contributed any positive evidence, and a careful sifting of the evidence will not justify positive conclusions—nothing more than the probability that in the medulla there is a centre having control over the circulation of the blood, and that strophanthus may in some way "govern" this.

Aside from any theoretical considerations as to the way in which the agent acts, the fact remains that benefit was apparently the direct result of its use, a benefit so notable as almost to justify the claim of a cure in some of the cases, but it would be wise to stop short of such a claim, for it was observed in one of the most favorable instances that while the result in a general way was eminently satisfactory, still any mental anxiety or disquietude was sufficient to raise the pulse rate from about 80 to over 100 for a period of several days.

The period of time during which the agent has been on trial is altogether too brief to justify too glowing claims for permanency of results, and the writer cannot divest himself of the fear that the improvement will not in the majority of cases remain permanently.

The only claim that is justifiable at present is that strophanthus has proved more notably beneficial in the treatment of exophthalmic goitre than any other drug or remedial measure.

A few words relative to the agent itself, or rather its preparations and dosage, may be useful. The only preparation used by the writer was the tincture, but it was observed that a notable difference existed in the taste of different specimens.

This difference related mainly to the bitterness, and upon investigation was found to be ascribed by some pharmacists to the length of time the drug was allowed to remain in the menstruum, and by others to the improper predominance of pods over the seeds in preparing the infusion. It was impossible to conclude just how the excessive bitterness was induced, but it was apparently due to an oil or oleo-resin which would render the tincture opaque on the addition of water. Several ounces of this oily material were shown to the writer by one pharmacist as having been separated in the process of manufacturing the tincture.

In some instances the presence of a large amount of this bitter principle seemed to be productive of disturbance of the stomach, which was avoided by using other samples with less bitterness, and on the other hand some instances were noted where the bitterness was not objectionable, though on the whole the impression remained that those specimens that were notably bitter did not act as favorably.

The administration was by the conventional method of three doses daily—one at each meal—the initial dose being from 8 to 10 drops, which was increased, if necessary to reduce the frequency of the pulse, to 15, 20, or even 25 drops, and in fact relief was not obtained in some cases until the large doses mentioned had been used. In no instance did unpleasant results appear to be due to the drug, aside from some nausea which was ascribed to the individual preparation used, and apparently due to an excess of the bitter principle.

There have been but few, and those brief, notices of the use of strophanthus in Graves, or Basedow's disease, and its use is not advised in any of the recent "year books" consulted by the writer. It had been used by him for over a year in the treatment of the disease under consideration before he saw any notice in medical literature of its prescription by others. Within a year he has seen in the medical journals a few notices of its use, and the reports have been quite uniformly favorable.

Whether its apparent utility will bear the test of time and larger experience is still problematic—at present it seems to be our most valuable therapeutic resource in exophthalmic goitre.

INFLUENZA IN DOGS.—MM. MEGNIN and VEILLON recently presented a note to the Société de Biologie, stating that of late a disease similar to influenza has raged in certain kennels. In a pack of 120, at Chantilly, the majority were attacked, and among coursing dogs, at Aveyron, and a fine pack of beagles, the disease was also prevalent. All the characteristics of human influenza were found in these dogs.

THE CLINIC.

SURGICAL CLINIC

Held at the Harlem Hospital, New York.

BY THOMAS H. MANLEY, M.D.,
OF NEW YORK.
[Reported for THE JOURNAL].

Dr. Manley opened his clinical lecture by stating that the whole of their time, on this occasion, would be occupied with their consideration, and technique, of procedures for the radical cure of hernia, in reducible and strangulated cases, and would specially call attention to the question of anæsthesia. He said he proposed to do two operations, one of which, would be performed on a young man who suffered with a reducible hernia, and the other on an elderly lady, for a strangulated hernia.

Commencing he said: I propose to first submit for operation this young man, while the nurses are preparing the female patient. He is thirty years old; was always in good health until five years ago, while pursuing his occupation of ship's carpenter, in Kinsale, Ireland, he fell a distance of about fifty feet. He was picked up in an unconscious condition, and was not able to resume his vocation for more than a month. When he started to work again he discovered that there was a small swelling in his right groin, and for the first time in his life, he was troubled from time to time with dizziness. He bought a truss which sufficed for a time to keep the hernia in position, but in turn it would slip down by it; he now purchased a stronger one, which in a short time he had to leave off, as its chafing pressure was more than he could endure, and continue with his work. In time, along with the advance in volume of the hernia, his back commenced to give him pain, and for a long while he was unable to continue steadily following his trade, and was practically invalided. In examining the protruded part it was evident that the sac, the fascia-propria-abdominalis, etc., was very much thickened; and though the intestine and omentum, went readily upward into the abdomen, and this pouch through adhesions, formed through cellular inflammation excited by the truss, remained. The patient had a horror of taking an anæsthetic, and Dr. Manley said, that since Réclus, of Paris, had published his famous article on "Cocaine Anæsthesia;" a report of more than seven hundred consecutive operations, he had used it locally with very great satisfaction, and hence he proposed to do both of these herniotomies, for radical cure, and strangulation by cocaine anæsthesia, injecting and diffusing it after the method of Réclus. He said, he regarded this, as one of the greatest boons ever conferred on either the patient or surgeon, for, while it dispensed with the ne-

cessity of an assistant, an important matter in emergency cases in the country at night, or amongst the poor, the patient himself proved the most valuable assistant of all, rising, sitting, standing, changing or shifting his position, or even using his hands as the surgeon desired. About ten minims of a 4 per cent. solution of the subcutaneous-injection were administered and the operation begun.

The speaker said he proposed to be guided by the conditions which he encountered in doing the operation, his aim would be, however, to separate, and ligate off the sac, close the ring by partly detaching the inner pillars of it, for there was no real canal, in this case, and, clamping them together with tin plate, and shotted silver wire, leaving the metal *in situ*, till firm, solid union was complete. As the incision was carried down, it was at once seen, what is almost to be expected, to be met with, every time we do this operation An ectopic testis was discovered which instead of having one spermatic cord, had really three, *i. e.* the artery was found coursing along the under surface of the sac, the vas deferens on one side, and an enormously varicosed spermatic vein on the other. They all converged as the peritoneum was approached, and assumed some sort of normal anatomical arrangement. They were all intricately incorporated with the laminæ of the peritoneal pouch, and required very delicate dissection. The cocaine anæsthetic acted admirably, and though the operation was extremely tedious, with very much tearing and lacerating of the parts, and occupying more than an hour, the analgesic-action of the alkaloid was perfect. The most rigorous antiseptic measures were observed throughout the operation.

When the female patient was brought in upon the stretcher for operation, Dr. Manley said that he wished it noted that her condition was very low, that she had had no movement from the bowels for nine days, that protracted and futile taxis had been made, before she was turned over to him for treatment; that she had fæcal vomiting; in fact, was in positive collapse. He said last year, one woman in a similar condition, under etherization, had died on the table, before the operation could be completed, and a man, at about the same time, never rallied well from the anæsthetic, and died within ten hours after the herniotomy for strangulation. After satisfying himself that the local anæsthesia was complete, he permitted the House Surgeon, Dr. James Guest to operate. The hernia was a direct inguinal; of the incarcerated variety; the operation itself was a McBurney, which the speaker said, he regarded as superior to all others, in every species of strangulated herniæ; as it afforded the operator an opportunity to see precisely what he was doing, he had the hæmorrhage under perfect control and perfect drainage of the foul secretion in the sac was complete. This operation, as in the preceding, was most gratifying as regards the cocaine anæsthesia. The difference of the patient's condition after an operation with cocaine and ether was most marked and satisfactory.

The operator said that he wished to emphasize the enormous value of this alkaloid in those cases in which, from organic, local or constitutional diseased conditions a pulmonary anæsthetic was never administered without danger. As in the present two instances; in cases of nephritic, hepatic, pulmonary or cerebral diseases; in cases of stenosis of the air-passages, idiosyncracies, and other morbid states of the system; wherein, after operation, either death speedily supervenes, or the patient's general health is deranged, the volatile anæsthetic may be blamed justly, rather than shock, loss of blood, or inflammation.

MEDICAL PROGRESS.

REPORT OF AN EXPERIMENTAL INVESTIGATION OF THE ACTION OF CHLOROFORM AND ETHER.—At the annual meeting of the British Medical Association held at Birmingham, July, 1890, DR. JOHN A. WILLIAMS presented in the Section on Medicine, a report upon this subject, and closed his paper with an extended summary of conclusions as follows, as reported in the *Brit. Med. Journal*, Oct. 25.

1. During chloroform anæsthesia the blood pressure is lowered and the heart's action is weakened.

2. Dilatation of the heart occurs to an appreciable extent, even when chloroform is administered gently, mixed with abundance of air (under 4 per cent. of chloroform vapor in the air).

3. Dilatation may occur even before the conjunctival reflex is abolished.

4. The dilatation affects all parts of the heart more or less — the left side as well as the right. It is not due to changes in the pulmonary circuit.

5. The dilatation is not due to the accompanying fall of pressure, to the diminished resistance to the ventricular systole, or to the diminished blood supply through the coronary arteries. Dilatation does not result from a similar fall of pressure brought about by means other than chloroform, for example, arterial relaxation caused by section of vasomotor nerves. Dilatation under chloroform often occurs very quickly, before there is any fall of pressure. Moreover, when the dilatation has followed a fall of pressure it is not removed by artificially raising the pressure, for example, by compression of the abdominal aorta.

6. There is no distinct change in the rate of the heart's action when dilatation occurs. A sudden

NOTE—Both patients made rapid and satisfactory recoveries.

and complete cessation of the cardiac rhythm is never caused by the inhalation of chloroform. Cardiac failure occurs by a more or less sudden enfeeblement and dilatation of the organ; not by a sudden complete cessation of rhythm.

7. The tone of the heart muscle is depressed, the cardiac walls become relaxed, and the functional efficiency of the organ is impaired.

8. When the heart becomes greatly dilated it fails to be an effective force in keeping up the circulation, while its rhythmic movement still continues—though so feebly as to be inefficient.

9. Cardiac failure sometimes occurs in this way a considerable time before the respiration stops, though generally the respiration stops before the heart has become incapacitated.

10. The failure of artificial respiration to bring about recovery (in some cases of chloroform collapse), when begun immediately after the spontaneous respiration has ceased, is in all probability due mainly to the enfeebled and distended state of the heart, which has become unable to maintain the circulation. Hence the supply of fresh air (by artificial respiration), free from chloroform, cannot be taken advantage of.

11. The depressing influence of chloroform on the heart — leading to dilatation of its cavities — is not exerted through the vagus nerves, but is a direct effect of the drug upon the cardiac mechanism. Section of both vagi does not obviate the weakening and dilating influence of chloroform upon the heart.

12. The weakening and dilatating effects of chloroform are sometimes manifested in tolerably equal degrees on both auricles and ventricles; but sometimes more readily upon the auricles, and at other times upon the ventricles.

13. A peculiar periodic depression of the ventricular action sometimes occurs during recovery from the primary effects of chloroform.

14. The contrast between the relation to the heart's action of chloroform and ether in anæsthestic doses is very marked. With chloroform, cardiac dilatation frequently occurs — and often, indeed, a very marked dilation — before the conjunctival reflex is abolished. With ether, the induction of anæsthesia with complete abolition of the conjunctival reflex has not been attended by any noteworthy dilatation: indeed, effects of a stimulating character have sometimes been observed, and the peculiar periodic ventricular depression sometimes following chloroform has been seen to be removed.

15. Under the influence of chloroform a temporary slowing of the heart's action sometimes occurs —from asphyxial conditions or from sensory stimulation during imperfect anæsthesia. This slowing is quite different in its nature and causation from the enfeebling and dilatating effect already mentioned. The slowing is not due to direct influence of chloroform on the heart, but is indirectly brought about through vagus nerves. It does not appear to be dangerous in the healthy animal.

16. The occurrence of fibrillar contraction (delirium cordis) does not appear to be a primary mode of cardiac failure from the inhalation of chloroform in the healthy animal, though it may sometimes supervene when the heart has become distended and incapacitated by chloroform.

17. The fall of blood pressure under chloroform is in its earlier stages due mainly to the depressing effect of the anæsthetic on the vasomotor centre, preceded often by a slight stimulation; the later stages are associated with failure of the heart as well as of the vasomotor centre.

18. The relative occurrence of cardiac dilatation and vasomotor depression varies. Sometimes the heart begins to dilate early — before there is any fall of pressure; at other times a large fall of pressure may occur before cardiac dilatation becomes marked.

19. The lowering of the blood pressure is in a certain sense protective; it retards the access of more chloroform to the vital organs. But, on the other hand, the fall of pressure may become excessive and produce dangerous effects.

20. In certain circumstances, when chloroform is very suddenly taken in, a dangerous dose may be absorbed, and the heart may become seriously affected *before* the vasomotor centre has had time to be much depressed.

21. When a fall of carotid pressure has been brought about by the *gradual* inhalation of chloroform in the ordinary way, firm pressure applied to the abdomen causes a marked rise of pressure — very much more than can be obtained by inversion of the animal. And even when the fall of pressure is due to the *sudden* inhalation of an excess of chloroform, pressure on the abdomen commonly, but not in all cases, leads to a decided rise in the carotid pressure. The existence of cardiac failure may prevent the possibility of such a change.

22. Changes in the respiration exert a most important influence upon the effects of chloroform administration. An amount of chloroform which can be given with safety during easy breathing may speedily become dangerous during deep, rapid respiration.

23. Free dilution of chloroform with air — the restriction of the percentage of chloroform vapor to 4 or 4½ per cent. — gives no security against an overdose. A percentage that give safe anæsthesia during ordinary breathing may lead to fatal collapse if given during exaggerated respiration.

24. Changes in respiration may be excited by sensory stimulation (operative interference, too strong chloroform vapor, etc.) during imperfect anæsthesia. Rapid, gasping respiration occurring in such circumstances is usually accompanied by

a rise in the blood pressure, and, as there may be already a considerable amount of chloroform in the circulation, there occurs a combination of circumstances specially favorable for the speedy and sudden development of dangerous collapse.

ANTIPYRIN IN PNEUMONIA, CHOREA, AND RHEUMATISM.—S. H. DESSAU, M.D., in *Arch. of Ped.*, in discussing this subject, says that the only disease in which he has employed antipyrin as an antipyretic is pneumonia. In this he seldom resorts to it unless the temperature runs above 104° F. early in the attack, and there are symptoms of nervous irritation including a tendency to convulsive seizures. Besides the antipyretic effects, antipyrin allays the nervous disturbance when not given too freely. It should be given in 2½ to 5 grains, repeated every hour for four hours—once in 24 hours. He prefers to have it administered toward evening, to secure sleep, as the result of its sedative action. If sleep takes place before all the doses are given, the rest is withheld. He has had the most marked success with antipyrin in the treatment of chorea, and corroborates the evidence of Dr. H. C. Wood in regard to its value in this disease. He has used antipyrin in 7 cases of chorea, 2 being still under treatment. One was cured in 1 week, 2 in 3 weeks, 1 in 4 weeks, and 1, the most severe of all, in 6 weeks. One case had previously been treated for 2 months with arsenic, bromide of potash, iron and digitalis without improvement. The beneficial effects of antipyrin might be inferred on the grounds of the evidence of the close relationship of chorea and articular rheumatism. Antipyrin has already acquired firm recognition as a reliable remedy in the treatment of articular rheumatism. For the past two years he has depended entirely upon antipyrin in pertussis, and has seen no reason for changing his practice. There were 45 cases, two being complicated with catarrhal pneumonia. They all recovered in shorter periods, or the attacks lessened in number and severity, than cases under former plans of treatment. Urticaria, of the more persistent form, does better under antipyrin alone or in combination with rhubarb and soda, than any other treatment.

TREATMENT OF ENURESIS BY DILATING THE VESICAL SPHINCTER.—M. SAENGER (*Arch. f. Gyn.*, xxxviii, 2). The technique of the operation is as follows: After cleansing the meatus with cotton, a disinfected metal catheter, preferably a female one, is introduced five to seven centimetres in the bladder, so that its point is about at the ureteral orifices. The tip of the right index finger closes up the mouth of the catheter and holds it quietly in position. The index or middle finger of the other hand is laid upon the catheter at the meatus. This finger then makes forcible pressure, at first downward, then alternately towards both sides. The pressure must be springy, elastic, and powerful, so that the meatus becomes widely open and some urine flows off alongside the catheter. By this pressure not only the sphincter vesicæ but the muscularis of the urethra becomes strongly stretched. In cases where it is possible to introduce a finger into the vagina, pressure can be made against the catheter. In very sensitive individuals a sound armed with cotton containing cocaine may be first introduced, or the cocaine may be injected directly. In small children a thin sound should be used instead of a catheter. The dilatation is altogether painless. From eight to twelve stretchings should be made in all three directions at a sitting. More than ten or twelve sittings are seldom necessary, at first done twice a day, then on alternate days. The patient is also instructed to gain control over the sphincter, to refrain from fluids as much as possible, and to keep the abdomen warm. The bowels should be regulated. The patient is also ordered to write down how often she urinates. S. thinks the root of the trouble consists in a weakness or paresis of the vesical sphincter, maybe also a certain tenuity of the muscular bundles. The centre for micturition must also be implicated, but negatively, as the irritation which causes the tight closure of the sphincter has but feeble effect upon the centre. In cases where abnormal width of the vesical neck and the whole urethra exists with urethral incontinence, this method is not applicable. Here the artificial narrowing of the urethra is indicated. The involuntary expulsion of urine by multiparous women frequently is due to abnormal width of the vesical neck and urinary channel, besides insufficiency of the sphincter. When not so very extensive, dilatation of the sphincter should be beneficial.—*Am. Jour. Obstetrics.*

EXAMINATION OF THE SPUTUM FOR TUBERCLE BACILLI.—DR. H. KÜHNE, of Wiesbaden (*Centralbl. für Bakt. und Parasitenk.*, vii Band, No. 10, August 29, 1890), after referring to the fallacies and difficulties with which the search for tubercle bacilli in sputum from phthisical patients is surrounded, describes a new method of staining the bacilli. When it is difficult to spread out the sputum on a cover-glass he uses a concentrated solution of borax, to which at least an equal quantity of sputum is added. The mixture is shaken up in a suitable glass or is worked up in a mortar, after which it is easily spread in a thin layer over the cover-glass. Nummular sputa from cavities may be broken down by a watery solution of carbonate of ammonia; this has the advantage that it is partially volatilized as soon as the cover-glass is heated, and what remains is broken up by the action of the acid. An equable layer on the

cover-glass being obtained, the albumen is coagulated by careful heating over a flame, after which the specimen is stained in Ziehl's fuchsin solution for five minutes, the color is completely removed with a 30 per cent. solution of nitric or sulphuric acid, and the specimens are washed in water and dried. In order to obtain a contrast stain, 2 or 3 drops of a concentrated solution of picric acid in aniline oil may be added to a watch glass containing pure aniline oil; a drop of this, placed on the slide before the cover-glass is lowered into position, gives a sufficient yellow contrast stain to cause the red tubercle bacilli to stand out very prominently. They may be examined with a magnifying power of × 60 to × 100, and where they are in great number, as is the rule in "cavernous" sputa, they appear under still weaker magnifying power as particles of red dust on a yellow ground. To make a permanent preparation, Kühne recommends that the aniline oil be driven off by means of his hand blower and that the specimen be mounted in Canada balsam. By this method the tubercle bacilli only are stained. —*Brit. Medical Journal.*

ON THE TREATMENT OF CYSTITIS IN WOMEN. By THOMAS MORE MADDEN, M.D., F.R.C.S. —Of all the diseases which come before us in gynecological practice there is none more frequently met with, more distressing in its effects, or more intractable to the means generally relied on for its relief, than cystitis in women. I therefore desire to bring under the notice of the International Medical Congress a method of treatment which I have found, by clinical experience, to be generally successful in the rapid curative treatment of this condition. The measures most commonly employed in such cases are merely palliative, and may relieve, but *per se* can never cure well-established cystitis in women. Nor am I aware of any method by which that can be accomplished save by giving the bladder absolute physiological rest. For this purpose Dr. Emmet's operation, *i. e.*, the establishment of an artificial vesico-vaginal fistula, may be successfully employed in some instances, but the practical objections to it are so great and obvious that for several years past I have abandoned this procedure in favor of another which I have found more generally effectual, and quite free from the disadvantages of the operation referred to. The plan which I have now employed in a very large number of cases of cystitis in the gynecological wards of the Mater Misericordiæ Hospital, Dublin, consists firstly in the full dilatation of the urethral canal with the instrument exhibited, so as to paralyze the contractility of the sphincter vesicæ and canal, and thus produce a temporary incontinence of urine; and secondly, in the direct application through the same instrument of glycerine of carbolic acid to the diseased endo-vesical mucous membrane. I may add that any pain thus caused may be prevented by the previous topical application of a solution of cocaine, and that the procedure seldom requires to be repeated more than once or twice at intervals of a week or ten days; and combined with the internal use of boric acid, rarely fails to effect a rapid cure in any ordinary case of female cystitis.

DIAGNOSIS OF STRICTURE OF THE RECTUM IN CHILDREN. (*Rev. Mens. des Mal. de l'Enf.*, February, 1890.)—The history of stricture of the rectum in children is of recent date. The condition is somewhat rare at this period of life, for children are not exposed to the many causes which produce it in adults. Also it is latent in its evolution, and the few functional symptoms which it provokes constitute a reason why, in congenital cases, it may remain undiscovered until puberty has been passed. An attack of rectitis may form the first intimation of its presence. Gosselin's definition of stricture of the rectum is a condition in which there is a diminution in the lumen of the organ caused by a transformation of the extensible tissue of its walls into inextensible tissue. This definition would not apply to all cases of stricture in children, for in some of them the valvular narrowing does not render the wall of the rectum inextensible, at least at the beginning. In all cases, as Trelat and Delens have said, there is a thickening or transformation of the walls of the rectum. Trollin mentions four causes apart from syphilis for this condition,—traumatisms of whatever character, inflammation, habitual constipation, and the presence of foreign bodies. In all cases, according to Reynier, the extent of the thickening in children is slight, but in a case reported by the author it was extensive, the rectum being converted into a long fibrous cylinder. The practical point of the paper is that in view of the possible latency of this condition and the complications which are possible, one should know the condition of the rectum by examination even in very young children.—*Archives of Pediatrics.*

MALARIAL GERMS.—DR. F. NEELSEN, in the *Centralblatt für klinische Medicin*, quoting from the writings of Camillo Golgi, in the *Archivio per le scienze*, says that two distinct types of bacilli have been demonstrated as causing the tertian and quartan malarial fevers. Biologically, the tertian germ completes its development in two days and the quartan in three, and the amœboid movements of the tertian type are much more marked than those of the quartan. Clinically, the destruction of the hæmoglobin in the red corpuscles is much more rapid in the tertian than in the quartan. Morphologically, the difference is to be seen in the first stages of development; the amœba of the tertian has a more delicate

mass of protoplasm and a sharper contour than those of the quartan, while the pigment granule and bacillus of the quartan are larger and coarser. Finally, segmentation takes place in a less regular manner in the tertian than in the quartan organism.—*N. Y. Medical Journal.*

ARISTOL IN DISEASES OF WOMEN.—SWIECICKI and GAUDIN (*Amer. Journ. Med. Sciences*, October, 1890), speak favorably of aristol in diseases of women. Swiecicki reports twenty cases of endometritis and pelvic exudation in which he used the drug. The discharge diminished and the local pain was relieved. The aristol was introduced in the form of vaginal suppositories, or a 10 per cent. solution was employed for the saturation of vaginal plugs. Dr. Gaudin finds the compound most useful in cervical erosion and endometritis, where it acts most favorably. It is a powerful disinfectant and deodorizer in cervical cancer, and Dr. Gaudin states that it promotes rapid cicatrization. It may be applied to the cervix in the form of powder, in solution, or in suppositories. After the curette has been used, the uterine cavity may be packed with strips of gauze saturated with a 10 per cent. ethereal solution of aristol. When the pure drug is taken or administered hypodermically, no trace of iodine can be detected in the urine. Hence, unlike iodoform, there is no danger of toxic effects when aristol is applied to large raw surfaces; moreover, it has no unpleasant odor.—*Brit. Med. Journal.*

THE ELIMINATION OF POTASSIUM IODIDE.—At the thermal baths at Bagnières-de-Luchon, M. GEORGES DOUX had several times during the past year occasion to determine the amount of potassium iodide in the urine of a patient ordered to take eight grams of the salt daily. The analysis showed the eliminated quantity to be so large and constant that M. Doux considered that further investigation of the subject would be of interest on account of the wide limits assigned to the size of a dose in treatment with this remedy. He therefore conducted a series of experiments upon himself, taking two 3-gram doses of the iodide daily for twenty consecutive days, and determining the amount of iodide and urea present in the total quantity of urine passed every twenty-four hours. The salt could be detected in the urine thirteen minutes after ingestion of the first dose, and the daily elimination after the second day remained a nearly constant quantity, being about 90 per cent. of the dose taken, whilst no traces could be detected seventy-five hours after the last dose. At the same time, the normal amount of urea present in the urine was diminished by about one-fifth. The experiments were repeated on two occasions, at two months' interval, with the same results, but it was observed that the quantity of iodide eliminated did not exceed 60 per cent. if a little absinthe had been taken on the previous day. M. Doux further states that he was prevented from extending his field of research by the attacks of coryza, epiphora, and maxillary pains that accompanied the daily ingestion of doses varying from one to five grams of iodide, whereas no ill effects were observed to follow a dose of six grams, which might have been expected to increase the severity of the symptoms.

THE DRY TREATMENT OF CHANCROIDS.—It is generally conceded that if chancroid ulcers can be kept perfectly dry a great step has been taken towards their rapid healing. In this view, the following procedure has been used to some extent on the surgical divisions at Bellevue Hospital, New York: A small roll of absorbent cotton about ½ in. in diameter and long enough to surround the penis just behind the corona, is put in that position after the prepuce has been well retracted. A rubber thread-band is slipped over this ring of cotton in order to hold it in its place. By this means the sulcus behind the glans is obliterated, which is especially liable to retain the secretions, and the prepuce is held back from contact with the ulcerated surfaces. The cotton absorbs the exudation from those surfaces almost as soon as formed. The dressing is light, is easily handled, and may be renewed as often as needed to keep the parts in a dry condition. In addition to chancroids, herpes preputialis and venereal warts have been found to heal rapidly under the use of this dressing; sometimes no other treatment has been found necessary for these local lesions.

ACETANILID AS A HYPNOTIC FOR CHILDREN.—Amongst the many hypnotics which at present are being so liberally supplied by the chemists to the medical profession, it is well not to lose sight of the value of acetanilid in certain groups of cases. Although the drug suggests more that its action is to hinder the development of febrile condition, or, when that condition exists, to lower the temperature, still in many cases in my practice it has proved a valuable hypnotic and analgesic.

Its value has been most evident in cases of broncho-pneumonia, croupous pneumonia, and bronchitis, and that more especially in cases where children have been the sufferers. The marked relief which has frequently followed its administration has in many cases been extremely gratifying. Cases of fretful insomnia of the young, possibly partially caused by pain, fever, or general *malaise*, have been speedily relieved by the drug, and from six to eight hours of refreshing sleep have been induced. After sleep the awakening was natural, there being no excitement or confusion of thought. There was

no period of excitement observed before the drug took effect. Along with the onset of sleep there was a fall of temperature, frequently a copious perspiration, at the same time the respiratory acts were slowed and the pulse-rate diminished. In no case have any evil effects been noticed, although the success of the drug induced its employment in a large number of cases.

The need of a safe hypnotic for children, such as antifebrin, will, I think, be readily appreciated, the number of cases where it is required being unfortunately very large. It is still further enhanced as a serviceable drug for children by the fact that it is comparatively tasteless, and also by the smallness of its dose; the dose being from two to five grains, depending of course on the age of the child. A useful way of prescribing it, I have found, is to place the powder on the dorsum of the tongue either alone or mixed with a little powdered sugar. It might also be given in the form of a mixture—the drug being insoluble in a watery menstruum—suspended by the aid of mucilage and sweetened by any of the various flavoring syrups. There is yet another important advantage in hospital and general practice over many recently introduced hypnotics, in the comparative cheapness of the drug.—*Brit. Med. Jour.*

GALVANO-CAUTERY IN PURULENT OPHTHALMIA.—DARIER reports excellent results (*Le Progrès Médical*) in the treatment of two patients in the clinic of Dr. Abadie. In both of these cases there was a deplorable condition, the lids were enormously swollen, with great inflammation and marked involvement of the corneæ. They had resisted all other forms of treatment, including nitrate of silver. Antiseptic douches, with the instillation of iodoform followed each cauterization.

UNNA'S TREATMENT OF ULCER OF THE LEG.—DR. HILLEBRAND, of Cologne, has obtained excellent results with Unna's treatment. This consists in thorough cleansing of the leg with soap and water and application in a thick layer of the following paste to the parts, excepting the site of the ulcer:

℞. Zinci oxidi,
Gelatin puris, ää 10.00.
Glycerini,
Aqu. destillat, ää 40.00.

The ulcer is then sprinkled with iodoform, and covered with a layer of cotton and sublimate or iodoform gauze. Over this is applied tightly a doubled headed wet mull bandage, the ends crossing in front of the leg. The bandage should extend at least from the middle of the foot to the calf, and is supplemented by a second one similarly applied. The dressings are changed in from two to four or even eight days, according to the amount of discharge. The effect of this method of treatment is to stretch the healthy skin over the ulcerated surface, the integument being prevented from retracting by the application of the paste. The free escape of cutaneous secretions is not prevented by the paste, as in the case of the adhesive plaster treatment. Hillebrand has obtained a complete cure in twenty-five cases where he employed this method. In all of them there was a rapid improvement in the local and general conditions, and the patients were able to work after application of the dressings. Equally good results were obtained in a case of chronic ulcer of the arm.—*Medicinische Monatsschrift.*

THE USES OF CODEINE.—The rush of new analgesics and hypnotics has almost completely overshadowed the long-known drug, codeine, and in this country, at least, its merits have been overlooked, and but little employment has been found for it. Dr. M. Loewenmeyer, in *Deutsch. Med. Wochenschr.*, gives a summary of the various conditions in which he has found it useful. The dose which he has used is from ⅓ to ⅔ of a grain; where the latter dose did not prove effectual, larger doses also generally failed. It was generally given in powder form, also in mixtures; latterly also in the form of suppositories. The results were favorable and highly satisfactory in the majority of cases of the following diseases: Painful conditions of the abdominal and pelvic organs (gastralgias, colics, visceral neuralgias), ulcer and carcinoma of the stomach, carcinomata of the liver, of the intestine, and of the peritoneum, and pain arising from disease in the genito-urinary system, for example, in ovarian pains (this latter differs from the observations made by Freund). Codeine rendered excellent service in diseases of the thoracic organs: phthisis, bronchial catarrhs, pleurisies, pneumonias, and cases of asthma. It also seemed to act favorably in diseases of the heart, as in conditions of stenosis. Loewenmeyer highly prizes the hypnotic powers of codeine, and there is no doubt that this property of the drug is very much underestimated. The hypnotic results were not so satisfactory in the different varieties of mental and nervous diseases.—*Weekly Medical Review.*

AMMONIUM ACETATE IN THE TREATMENT OF SCARLATINA.—VIDAL recommends large doses of ammonium acetate in the treatment of scarlatina, and believes that it will also be found useful in the treatment of other exanthemata. In three children suffering from scarlatina to whom he gave the drug in daily amounts of from 35 to 90 grains, the temperature rapidly fell and desquamation was established within four days. In the author's experience the earlier in the course of the disease that the ammonium acetate is given the better are the results.—*Wiener medicinische Presse*, October 5, 1890.

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SATURDAY, NOVEMBER 29, 1890.

QUINIA USELESS IN NON-MALARIAL DISEASES.

DR. JOAQUIN L. DUENAS, of Havana, has published in a medical journal of that city, the results of nine years' study of uses and futilities of quinia, in 3,961 patients. The greater number of his observations were within the city limits, and he declares it as his opinion, although contrary to what might be expected, that Havana is, for the most part, free from malarial infection, and that it is only in those parts of the town where the pavements are imperfect, and where there is much decomposing organic matter that true malarial fever is met with. He thus confirms the views of LAVERAN, ROUX, COLLIN and others to the effect that malaria is not an urban infection and that the country is its home; that large cities in their growth and sanitary development gradually crowd out the elements that foster paludal disorders. Dr. Duenas classified his patients into febrile 2,267, and non-febrile 1,694. Of the pyretic affections, seventy cases only were classed as malarial, and these were freely treated by quinia; 704 cases were infectious in character, inclusive of small-pox, scarlet-fever, yellow fever, measles, varicella miliary tuberculosis, septicæmia, erysipelas and typhoid fever. Of these the last two alone treated to any considerable extent with quinia. This use was dictated by the desire to reduce high fever and to administer a cardiac and vascular tonic. After a short experience with the drug in typhoid fever and septicæmic conditions the writer abandoned its use in regard to them. He did not long persist in the employment of quinia in malarial disorders of the adynamic type; in the few cases of pernicious fever, in which quinia was used as the chief remedy, death was the invariable consequence, but whether the fatal issue was due to the disease or to the medicine, the writer could not determine. Remittent fever appeared to be benefited by quinia, but in those forms where the typhoid symptoms become prominent, and which are by many called typho-malarial fevers, the uselessness of the drug was manifest, not only for the reason that it appeared to reduce the systemic resistence, to predispose the patient to attacks of syncope, to favor the degeneration of the cardiac muscular fibre—a frequent mode of death—but also by its local action to protract the period of recovery by its irritation of the gastro-intestinal mucous membrane. The drug was found to be useless in diphtheria, dysentery and all forms of septicæmia, especially those having their origin in the puerperal condition; in erysipelas and acute articular rheumatism the remedy was serviceable. In the fever of syphilis quinia was useless; this was also true in regard to the fever of dentition and in chlorotic and hysterical subjects. In regard to catarrhal affections, having more or less pyrexia, the drug was often harmful, such as laryngitis, bronchitis and acute broncho-pneumonia; in these affections, the use of quinia was never followed by any significant reduction of the temperature. The same results obtained in regard to the treatment of catarrhal disorders of the digestive organs, of the bladder and other pelvic organs. It was observed, as a probable result, in several cases that the drug was harmful in prolonging the febrile stage and the duration of the disease. In cases of broncho-pneumonia in infants, it even appeared to hasten death.

In all, Dr. Duenas treated not far from one thousand cases of non-malarial febrile disorders and diseases of the various mucous membranes, with the general verdict of useless or harmful. Quinia was found useful in certain congestive conditions in hæmorrhages, apyretic rheumatic attacks, neuralgia, migraine, asthma, pertussis, cardiac depression and in some other disorders which, although not depending on any known malarial agency, frequently assume the intermittent type. Of all these diseases, neuralgia was the most frequent, and it yielded most

happily to the influence of quinia; of 228 cases successfully treated by that drug only two were regarded by the writer as having been due to a distinct malarial poisoning.

KOCH'S WISDOM.

For three month's the world has waited with impatience for a revelation of the reported cure for tuberculosis. The announcement that the illustrious KOCH had discovered a cure for the disease whose cause he had revealed ten years ago, was welcomed with a confidence that would have been bestowed upon no other discoverer in the medical profession. And now the world is filled with amazement at the remarkable results which are reported to have followed the use of this remedy—amazement mingled with disappointment that the nature of the remedy has yet been withheld. The blessing of the public is like that of Saxe on the man who first invented sleep.

If the telegraphic translations of Koch's article in the last issue of the *Berliner Klinische Wochenschrift* are to be relied upon, the discoverer is satisfied with the results of his experiments, but deems it prudent to withhold for the present the nature of the remedy from all but a few of his most eminent associates. Those to whom he has revealed it are said to be filled with enthusiasm. PROF. NOTHNAGEL is quoted as saying, "we face one of the greatest intellectual achievements in the province of medicine for centuries past. Prof. Koch's discovery has a far wider scope than Jenner's and is, perhaps, the grandest feat in the history of our science. . . . The present moment is among the most sublime that humanity has known."

The lymph which possesses the remarkable property of destroying tuberculosis is described as a brownish, translucent liquid. It is administered hypodermatically through the skin of the back. The dose is from .01 cc. to .25 cc., rapidly increasing, except in cases of advanced pulmonary tuberculosis, when only .001 or .002 cc. are at first injected. Koch's experiments have been conducted upon healthy individuals, including himself, upon patients suffering from various forms of tuberculosis, bone, lymphatic, pulmonary and cutaneous, and upon lower animals. Its action on man is many times more pronounced than that on animals. The effect of an injection in a healthy individual begins in three or four hours after it is made. The first symptoms are lassitude, muscular rigidity in the lower limbs, dyspnœa and cough. An hour later the individual has a severe chill, lasting about an hour, accompanied with nausea and sometimes vomiting. The temperature rises to 36.6° C. (103.25° F.) or higher. These symptoms for the most part continue twelve hours, then subside; but the lassitude frequently continues several days. In the tubercular subject the same symptoms are present, but are more intense. There is a chill, elevation of temperature reaching from 39° to 41° C. (103° to 105.8° F.), extreme prostration, and usually nausea and vomiting, sometimes a slight icterus or a macular eruption (resembling measles) on the chest and neck.

The local effect on lupus is even more interesting. Within a few hours after the injection, we are told, the sores become of a dark red color; as the fever increases a rapid necrosis of the lupus tissue occurs, the color deepening to a dark brown or black. After the acute manifestations subside, repair speedily occurs. Recovery has repeatedly followed a single injection. The reaction in cases of bone, lung and lymph-node tuberculosis is not so striking because not open to ocular examination, but it is apparently similar in character. Koch believes that the remedy is a cure for incipient tuberculosis of the lung, but has not yet established the fact of its being a permanent cure. In regard to advanced tuberculosis he fears that it will not be more than beneficial.

The action of the new remedy is said to be exerted not upon the bacilli, but upon living tubercular tissue. It causes rapid necrosis of all tubercular new-formations. Its action is final, and it has no power over dead tubercle. Hence the dose administered may be rapidly increased, its action diminishing with the destruction of the tissue.

The only admitted defect of the treatment is the possibility of living bacilli being retained in the necrotic mass to infect the system at some later time. Occasional repetitions of the injections are, however, believed to be a safeguard against such infection, or, at least, a cure in case it does occur.

There might be a question of the possibility of

septic infection arising from the production of so great an amount of necrotic tissue in the organism; but we are told that the discharge from the necrotic masses is not purulent in character. The expectoration from tubercular lungs becomes non-purulent.

In nothing is Prof. Koch's wisdom more clearly displayed than in his reservation of the nature of his remedy until further observations of its action have been made. He has thus, no doubt, prevented a repetition of the absurdities which followed the announcement of BROWN-SÉQUARD'S alleged discovery. Whatever of good there is in the remedy will thus surely be secured to humanity. Long live the illustrious Koch!

DISHEARTENED CHILDREN.

Do not crowd the children! The school duties should be measured out to them in proportion to their nervous vigor. It is manifest to every discriminating observer that there are causes at work, in city life especially, that will compel a further reduction in the duration of the school attendance and in the pressure on the highly evoluted nervous organizations of the present day. The hours and pressure are already much less than was considered perfectly legitimate in your and our boyhood days. The penalties then liberally administered, "for the good of the rising generation," are not tolerated for a moment now. Correctional measures of discipline have now to be administered sparingly and judiciously; you must spare the rod sometimes, or you will spoil the child. Many parents of our acquaintance view with annoyance and chagrin the apparent incapacity of their offspring, in the fact that the latter cannot undertake as many branches of study as were in vogue when they themselves were children. The only comforting assurance that we can give them is that the times are changing, and are destined to change.

EDITORIAL NOTES.

REMOVAL OF THE PANCREAS FOR CANCER.—The *Press and Circular* states that a case of removal of the pancreas for cancer has been reported by Rugge, in an Italian medical journal, name not given. The case was that of a woman, aged 50, who came under treatment for gastric symptoms, loss of appetite, constipation, and pain radiating from the epigastrium in all directions. On examination, there was found a tumor between the umbilicus and hypochondrium, hard, resistant and somewhat movable. The diagnosis was arrived at of a retro-peritoneal sarcoma. Laparotomy was performed and the removal of the tumor undertaken, a procedure that was by no means easy, owing to the numerous adhesions which had formed. The growth was found to be the pancreas, the seat of primary carcinoma. The patient made a rapid recovery.

OFFICERS ELECTED.—At the annual meeting of the Washington Obstetrical and Gynecological Society the following officers were elected for the ensuing term: W. W. Johnston, M.D., President; D. W. Prentiss, M.D., H. L. E. Johnson, M.D., Vice-Presidents; H. B. Deale, M.D., Recording Secretary; Geo. Byrd Harrison, M.D., Treasurer; and G. Wythe Cook, M.D., Corresponding Secretary.

THE KOCH METHOD.—The associated press reports, under date of November 17, referring to this method has the following report from Berlin: Professor Bergmann delivered a lecture last night at the Berlin Clinical Hospital on the thirty-nine cases treated by him according to the Koch method. The patients were suffering from various tubercular affections of the joints, bones, skins, glands, throat and mouth, One of them was suffering from a tumor of the larynx, and it was doubtful whether the affection was a tubercular or cancerous one. He was treated in the manner laid down by Professor Koch, and, as there was no constitutional reaction Professor Bergmann was led to express the opinion that the tumor was of cancerous formation. Professor Bergmann illustrated the value of the Koch method as an aid in diagnosis. Professor Koch's indisposition was the result of an injection of the curative lymph. It was only very slight, and has now passed off. Professor Bergmann also demonstrated the Koch cure last night before Dr. von Gossler, Prussian Minister of Ecclesiastical Affairs, Instruction and Municipal Affairs, and many noted physicians, including the celebrated Dr. Kerschensteiner, of Munich. A visitor to the consulting rooms of Dr. Cornet writes to the *Vossische Zeitung* as follows: "Imagine a dark corridor scarcely four and a half feet wide thronged with a motley assemblage of men and

women, and in a small adjacent ante-room thirty persons coughing in a close atmosphere anxiously awaiting their turn for examination and treatment. One patient who appeared to be in an advanced stage of the disease had to be carried into the consulting room. In this room there were three assistants at work by a little table; one patient seated in a chair undressed and undergoing examination and three other patients partially undressed and awaiting their turn. Dr. Cornet in the meantime made his way through the throng calming the impatient, and seeing that every one took his or her proper place. A workingman who seemed to be suffering greatly pleaded that he was the father of four children and asked that his case might be taken without delay. He was told that he would be admitted as soon as a vacancy occurred. Similar answers were given to others who were importunate. The stream of applications for treatment has grown into a perfect avalanche." The writer in conclusion says that the municipal authorities ought immediately to erect temporary hospitals for the treatment of patients with tuberculosis.

THE ORTON PRIZE.—Dr. J. G. Orton, as President of the New York State Medical Association, has offered a prize of $100 for the best short popular essay on some subject connected with practical sanitation, under the following conditions:

1. Competition to be open to all.

2. Essays to be forwarded to the Secretary of the Association, Dr. E. D. Ferguson, Troy, N. Y., not later than August 1, 1891, accompanied by the name of the author under separate seal.

3. Examination and award to be made by a committee appointed by the Council of the Association.

4. The successful essay to be read at the next annual meeting of the Association, and, if approved by the Council, to be offered for publication in the secular press, and issued in tract form or otherwise for general circulation.

5. Authors of essays, unsuccessful as far as the prize is concerned, but found worthy of special commendation, to receive intimation as to a proper disposition to be made of them.

DEATH OF DR. G. MONOD.—The death of this surgeon, well known in Paris from twenty-five to thirty years ago, is announced at the ripe age of eighty-seven. Dr. Monod was for many years on the surgical staff of several Paris hospitals in succession, and had also served his seven years as assistant professor at the Paris Faculty. He was an able surgeon of a school now fast dying out, and enjoyed a large practice, especially amongst the Huguenot or French Protestant body, of which he was a prominent member. He was the father of Dr. Charles Monod, surgeon to the hospital of St. Antoine.

UNIVERSITY OF PENNSYLVANIA.—The compulsory course for the medical degree in this University has been lengthened to four years.

THE SUCCESSOR OF PROF. BARTHOLOW.—So far as we know the one to succeed Dr. Bartholow in Jefferson College has not been named. If, as in former times, the custom shall prevail to invite to that institution at every third vacancy a Western man, we think the West is now to be represented. If so, as yet, no one has been so prominently named as Dr. Samuel O. L. Potter, of San Francisco. His work has already rendered his name familiar, especially to medical students, and the college would gain an added strength if, in naming him to that position, it should also honor one of its alumni.

KOCH'S EARLY DAYS.—Mr. Arnold Koch, President of the Redheffer and Koch Art Company, of St. Louis, a younger brother of Dr. Robert Koch, of Berlin, says that "Robert is the third of thirteen children, the first nine of whom were boys. While the rest of us went fishing and hunting, Robert devoted his hours to study and observation. One of his favorite pastimes was the microscopical study of lichens and mosses. At 17 he had completed his course in the High School at Clansthal, Hanover, but was unable to enter the University of Göttingen until he was 18. At the University he wrote a prize essay in his second year. His course as a physician at Posen, where he first began the study of bacteria, his service during the Franco-Prussian war, and his investigation of the cholera germ, are all matters of record."

HYGIENIC INSTRUCTION IN SCHOOLS.—The French Minister of Instruction has directed that twelve lectures on Hygiene are to be given to the more advanced pupils in all *Lycées*.

DR. W. L. SCHENCK has removed from Osage City to Topeka, Kan.

TOPICS OF THE WEEK.

A STUDY OF DR. KOCH'S DISCOVERIES.

The result of Prof. Koch's discoveries, so far as we are able to understand them on this side of the Atlantic, promises to revolutionize the practice of medicine, at least in the treatment of diseases depending upon the presence of a microörganism. Notwithstanding that these investigations have been going on for some time, no one outside of his immediate associates seem to have any very definite ideas as to the method pursued in the preparation of the medicaments used. From the report which he has just published, nothing can be learned as to his secret, and for the present all liquids for inoculation will have to be obtained from Berlin. While this may be useful as a precautionary measure, and may serve to prevent the illegitimate uses which followed the announcement of Bergeon's gas, and Brown Séquard's fluid, it is not at all to the liking of many scientific men in this country. Still, we are scarcely warranted in entering a complaint against the discoverer, because the establishment of the correct principles upon which the cures depend is more to be desired than the immediate and wholesale practice which would follow the exact announcement of the methods.

So far as we can judge from the reports, the results in the practice of quite a number of physicians in Berlin would lead us to believe that a specific has been found which will arrest the progress of consumption, and that for all practical purposes those submitting to this treatment, even in advanced stages of the disease, may expect to be relieved from the immediate consequences of the affection. Whether it will be a guard against an attack at some future time the promoters are not prepared to say; but from our knowledge of the etiology, and the relations which the bacilli bear to it, there is no assurance that it will enact the role of vaccination as practiced for the prevention of small-pox. The remedy merely presents to the affected tissues a poison, probably in the shape of a ferment, which has a fatal effect upon the bacilli; the result of this action is that the diseased structures undergo a retrograde metamorphosis, necrosis takes place, and that portion which is not eliminated by expectoration is rapidly absorbed and thrown off through the usual channels. Where the disease affects joints, for instance, massage is recommended for the purpose of assisting nature in getting these objectionable products into the blood-current.

In the treatment of lupus and lupoid ulcerations the action of the remedy may be observed from day to day, and in this disease the descriptions are exceedingly interesting, and will be useful in enabling us to estimate the peculiar powers which it possesses. No physician can study the account published by Prof. Koch without a feeling of wonder and admiration, owing to the clearness of the evidence, the multiplicity of facts adduced, together with the well-known scientific character of the work previously performed by this celebrated *savant*.

It would be idle to speculate upon the character of Prof. Koch's medicament, but it will not be out of place to call attention to some investigations which have preceded his, and which appear to throw some light upon this occult subject. In the *British Medical Journal* for last October, Mr. E. H. Hankin gave an account of the methods he had pursued for the purpose of rendering mice insusceptible to anthrax, by means of the subcutaneous use of an albumose obtained from cultures of the anthrax bacillus. Dr. Sidney Martin communicated an account of his researches in the same line on May 22, 1889, to the Royal Society. He succeeded in obtaining two albumoses, an alkaloid leucin, tyrosin and a peptone from cultures of this bacillus. These albumoses were strongly alkaline, and upon this condition, Dr. Martin assumed, their toxicity depended. When introduced into the living tissues, the toxic property of the albumose was similar to that of the alkaloid, only less rapid in its action. The symptoms correspond in the main with the effects which are said to attend the injection of Koch's liquid. The alkaloid used in this manner quickly produces death in mice, another factor going to show the close resemblance between the poison of Martin and the liquid medicament of Koch, which is used in what might be termed infinitesimal doses. Whether his inoculation liquid is prepared in like manner from the bacillus tuberculosis, remains to be seen. And if this assumption be correct, it is but a question of time when all disease dependent upon a germ for its progress will become amenable to similar treatment. This statement, however, does not indicate that I am committed to the belief in theory of the bacillus tuberculosis being the first cause of tubercular phthisis, as will appear from the study of other investigations referred to later on in this paper.

Mr. Rankin also reported to the Royal Society last year, that he had been able to obtain from cells that are, or can become phagocytes, a substance which is fatal to bacteria, thus confirming the doctrine of phagocytosis. In May of this year the *British Medical Journal*, commenting upon these discoveries, said: "It is obvious that this discovery throws a new light on Metschnikoff's phagocyte theory, and points to the *rationale* of pus-formation. Apparently we are dealing with a natural antiseptic—a substance produced by the organism to protect itself against microbes, and the question arises whether its administration can have an effect in modifying the course of the disease." The indications are that Prof. Koch has demonstrated the applicability of this principle in the treatment of tuberculosis, just as Martin and Hankin have shown its efficiency in arresting the progress of anthrax in mice. The weapons of the disease are the poisonous proteids, and nature meets them with weapons of a like character. The resistance of the organism is an inherent property, one of the normal functions of life; when this function has become impaired, or is temporarily suppressed, the disease-poison gains the upper hand, and if the condition is maintained for a sufficient length of time, the foundations of health are undermined, but never before have we had such a practical demonstration as in the case of the arrest of tuberculosis.

The investigations of Roussy (Experimental Researches

on the Pathology of Fever, Acad. de Med., February 12 and March 12, 1889,) seem to shed some light upon a subject intimately related to this line of study. In the course of his experiments Roussy found that certain diastases penetrating the blood became pyretogenous. By the injection of invertin into the blood, he produced in animals violent attacks of fever. Now, we know that the intestinal juice possesses the power of inverting cane-sugar; saccharose is transformed into invert sugar, and it is not unreasonable to assume that frequently occult febrile conditions may be due solely to intestinal derangements which permit or favor the absorption of invertin. The regulation of the diet in health, therefore, becomes a matter of paramount importance, and with attention to diet, and a knowledge of the principles underlying Koch's discovery, we are apparently on the threshold of a new era in the practice of Medicine.—Dr. John Aulde, *Medical Summary*.

THE STRUCTURE OF BACTERIA.

To give an account of the structure of bodies so small as those that belong to the bacteria would seem to exceed the powers of the best microscopist armed with lenses of the deepest focus, yet it has been essayed by Bütschli, the accomplished Professor of Zoology in Heidelberg. He has taken as the subjects of his examinations two large and well-known forms, which were recognized by Ehrenberg, and belong to the peculiar group of sulphur bacteria—one of these was named "Monas Okenii" by Ehrenberg, "Beggiatoa" by Zopf, and "Chromatium" by Perty—the Ophidomonas jenensis. These bacteria grow only in soil water impregnated with hydrogen sulphide; without that gas they dwindle and die, with it they have an active and vigorous life, and grow and multiply. They possess the remarkable power of decomposing sodium sulphate and fixing the sulphur. In their interior may be seen a variable number of dark, highly refracting granules or droplets, the accumulation of which sometimes renders the animal quite opaque. These granules are composed of soft sulphur, which dissolves readily in alcohol and reappears on evaporation of the alcohol. The droplets disappear in the course of twenty-four hours when digested in artificial gastric juice or in a 10 per cent. solution of soda. The Chromatium Okenii contains a red coloring matter, named by Prof. Ray Lankester "Bacterio-purpurin." Its form when seen on the side resembles that of a bean, but on transverse section is circular. The maximum length is 0.14 mm. The majority move rapidly forwards or backwards by means of a whip-like cilium. Each organism is provided with a thick, firm, colorless investing membrane, presenting net-like markings on the surface, which seems to be continuous with the flagellum. This membrane does not give the reactions either of cellulose with iodine or of albumen with Millon's reagent, but it stains well with hæmatoxylin and other staining agents. On pressure being carefully applied, the outer tunic bursts, and the body of the animal flows out in a manner that shows it to be of soft consistence, with an external reddish layer which is retiform, and an internal colorless one which contains all the sulphur granules. The addition of alcohol quickly dissolves out the red coloring matter, but leaves the plasma green; Bütschli therefore admits the presence of a red and a green coloring matter. The former is deposited in red rhombic laminæ on evaporation of the alcohol. When the crystals are treated with diluted sulphuric acid they become blue; when with diluted nitric acid, grass-green. The central mass of the organism stains more deeply with coloring agents than the cortical, and, like the cortical, shows a kind of retiform or felt-like arrangement. The sulphur droplets are connected with the web, and not with the enclosed plasma, and are situated at the points of intersection of the web. Bütschli finds a very similar structure to that above described in spermatozoa. He recommends that the light, under which they are examined, should not be too strong. —*Lancet*.

SOME OBSTACLES TO MARRIAGE.

The leading statisticians of France are still much occupied with facts and figures concerning depopulation and its remedies. About 74 out of every 100 illegitmate children die in France before the age of 21. As one means of increasing marriage and adding to the population, it has been proposed to legalize and encourage the marriage of priests. M. Lagneau gravely reminds the Academie de Médicine that in the fifth century Sidonius Apollinaris, though a husband and father, was Bishop of Clermont-Ferrand, but, he added, "Now this would not be tolerated." Dowries are much more universally expected and guarded for marriageable daughters in France than elsewhere. This seems to interfere with the survival of the fittest. The suppression of dowries, it is suggested, would have the advantage of giving the preference over rich girls to handsome and strong young women, capable of producing beautiful and vigorous children. There is, too, it seems, too great a number of administrative and official posts, and this brings the rural population into great cities such as Paris, where they have fewer children and weaker. In Paris, the centre of administration, 11.6 per cent. of the residents are living alone, while in France in general there are only 4.25. Even these are not able to pay for bringing up their families. Scholarships and special payments by the State for this purpose cost, in 1887, £125,000. The want of provision for medical relief to the poor in the provinces also drives them into the great cities. Last year "nuptiality" and "natality" again fell off by some thousands as compared with the previous year, the marriage rate being only 7.1 per 1,000 and the birth rate 23.04 per 1,000; so that the demographic conditions are far from being satisfactory. —*Brit. Med. Jour.*

STATUE TO LIEBIG.

At Giessen there was on July 23 unveiled, in the presence of a large assemblage, a monument to this distinguished chemist. The statue is greater than life size, and allegoric figures representing Science and Culture are on two sides of the monument, which is of white marble and is described as a magnificent work of art. —*Pharm. Record*.

PRACTICAL NOTES.

KERATIN.

Drs. Unna and Beiersdorff recommend that pills coated with keratin, or capsules made of this substance, should be employed when drugs are prescribed which irritate the gastric mucous membrane, and the administration of which is liable to induce vomiting—such as preparations of digitalis and squills, salicylic acid, or iodide of iron; also when substances are given which neutralize the acidity of the stomach, or which in any way impair its activity—such as acetate of lead, tannin, nitrate of silver, alkalis, etc. An outer coating of keratin is also desirable when prescribing drugs that are required to act on the intestinal mucous membrane without affecting that of the stomach, such as extract of logwood, tannin, or the salts of aluminium. Finally, keratin is most valuable when substances are given with the object of destroying worms, but which if introduced in the ordinary way into the stomach undergo absorption to such an extent that they are liable to set up alarming symptoms, while at the same time their germicidal action is reduced. Keratin is obtained by treating shavings of buffalo horn with ether, alcohol, and an acid. Its special property is that it is insoluble in the contents of the stomach, but readily so in those of the intestine after the pancreatic juice has entered.—*The Lancet.*

INDICATIONS FOR THE USE OF GLYCERIN INJECTIONS AND SUPPOSITORIES.

The observation of the effects of glycerin injections and suppositories in a large number of patients has led Dr. Polubinski (*Deutsche Medizinal-Zeitung*, June 19, 1890) to the following conclusions:

There is no doubt that glycerin irritates the mucous membrane of the rectum. This is shown both subjectively in the burning produced by it, and objectively by the ascending of the mercurial column of the thermometer, if pushed deep enough within the intestine.

The increase of temperature and the desire to defecate are of but short duration, and the latter may often be overcome voluntarily by the patient. The irritation of the mucous membrane produces no local secretion, since the fæces, evacuated as a consequence of injections of glycerin, are only covered with glycerin. The author obtained the best results when the rectum and sigmoid flexure are filled with scybala. If fæces collect in the upper parts of the intestinal tract, glycerin is then inefficacious. According to the author, therefore, the cases in which glycerin enemata and suppositories are indicated are,—*first*, when the fæcal masses are already in the rectum; *second*, when they are in the parts of the large intestine immediately above, as occurs so often in lying-in women; *third*, in diseases of physiological conditions which produce mechanical pressure on the rectum or sigmoid flexure, such, for example, as new formations in the pelvis, pregnancy, etc.; *fourth*, in scrofulous children; *fifth*, in persons who, although they may daily succeed in having evacuations of the bowels, yet in whom the act of defecation is only accomplished with difficulty and accompanied by pain, and in whom in general the fæces are of excessive density.—*Thera. Gazette.*

ARISTOL IN OZÆNA.

Iodide of thymol—or aristol, as it is called—is strongly recommended by Dr. Löwenstein, of Elberfeld, in ozæna. He gives in the *Internationale Klinische Rundschau* several cases in which this remedy proved more efficacious than any other. In one case, the patient, who had previously been treated with iodoform, would have been discharged from his employment on account of the smell of the drug; aristol was then employed with the most satisfactory results, the fetor vanishing, the ulcerations healing, and the scabby crusts ceasing to form. Dr. Löwenstein makes use of insufflations, which answer very well, as aristol is a fine powder. He also paints ulcerated spots with a mixture of 1 part of aristol in 10 parts of flexile collodion. It is necessary to keep aristol in a dark-glass bottle, as it is easily acted on by light. It may be remarked that it has a very slight but not unpleasant odor, and that it is remarkably cheap.—*The Lancet.*

GLYCERINE CLYSTERS IN INFANTILE DIARRHŒA.

Two-drachm glycerine clysters have been found of great value in infantile diarrhœa. They act promptly, and do not cause discomfort.

TREATMENT OF CARBUNCLE.

Dr. J. L. Napier, of Blenheim, S. C., uses pure carbolic acid locally in the treatment of carbuncles. He paints the whole carbuncular mass with pure carbolic acid three times a day, until the mass begins to lessen and the slough is detached. If the carbuncle is seen before suppuration has begun, in three or four days it will abort. If suppuration has started, in seven to ten days the whole carbuncular mass can be removed with the forceps, leaving a healthy, granulating ulcer. The treatment, as above described, reduces the time of treatment from weeks to days; and besides that, the acid being a local anæsthetic, adds very much to the comfort of the patient by relieving the pain,—so much so that, after the first application, very little anodyne is needed.—*North Carolina Medical Journal.*

SOCIETY PROCEEDINGS.

Southern Surgical and Gynecological Association.

Third Annual Meeting, held in Atlanta, Ga., November 11, 12 and 13, 1890.

FIRST DAY—MORNING SESSION.

The Association convened in Concordia Hall, and was called to order by the President, Dr. George J. Engelmann, of St. Louis, Mo., at 9:30 A.M.

MAYOR GLENN delivered an *Address of Welcome*, the response to which was made by Dr. R. B. Maury, of Memphis, Tenn.

DR. R. B. MAURY, of Memphis, then contributed a paper entitled:

HOW SHALL WE TREAT OUR CASES OF PELVIC INFLAMMATION?

The paper gave a comprehensive *résumé* of the pathology of chronic pelvic inflammation as it has been clearly demonstrated by Bernutz, by Polk, Coe and others, and by the results of abdominal section. This pathology is that of pelvic peritonitis dependent upon tubal disease—not cellulitis. The author declared the term chronic cellulitis a misnomer—a pathological condition which existed only in the imagination of the physician, a term which had been productive of pernicious results in practice and which should no longer be used in connection with non-obstetric pelvic inflammation.

When the pathology rests upon such abundant and positive evidence, the question might be asked, Why reopen a discussion upon it now? Because it is evident from our society proceedings and hospital reports, that great confusion exists in the medical mind to-day in regard to it. Dr. Byrnes' case, discussed in the New York Obstetrical Society during the present year, was taken as an illustration. In speaking of such cases the great tendency to relapses in chronic pelvic inflammation was illustrated by two cases in which pus tubes were found five and seven years after attacks of peritonitis, and when it was supposed the patients were entirely restored to health. Upon the subject of treatment, the writer admitted that by non-surgical therapeutic measures large intra-peritoneal exudations are often absorbed, and even some tubal and ovarian inflammations entirely disappear and recovery seems complete. But this is the exception and by no means the rule. For the radical cure of chronic pelvic inflammation non-surgical treatment fails in a majority of the cases. A great many women suffering to a moderate degree, continue to do so in spite of the best directed non-surgical measures, and perhaps wisely elect not to undergo operation.

As a rule, the only radical and permanent relief is afforded by removal of the diseased appendages. The treatment of pus collections of course requires abdominal section.

DR. JOSEPH PRICE, of Philadelphia, followed with a paper on

THE MOTIVE AND METHOD OF PELVIC SURGERY,

in which he said pelvic surgery must be considered apart from abdominal surgery. It is distinct from it, both in the nature of the lesions dealt with, in the difficulties it presents, and in the complications and embarrassments to routine technique.

Nowhere as much as in pelvic surgery does the distinction between the general surgeon and the specialist in pelvic disease stand out so clearly. Pelvic adhesions in appendicitis, for instance, Mr. Treves would deal with by the knife. If this is feasible, why not put the knife to ovarian and tubal abscesses, to all intestinal fixation by inflammatory processes and the like? The very suggestion of such method to the mind of the specialist accustomed to deal with all the complexities of pelvic surgery is fraught with evil, and this mere suggestion only makes it clear that general surgeons, in so far as they are entirely wedded to the knife in removing disease, fall short of the demonstrated harmfulness of its application in pelvic work.

Relative to electricity, Dr. Price said that electricians yet talked learnedly of the undetermined place of electricity in the treatment of ovarian cysts, but tar water and tractors have gone to their long rest. The time must yet come when the claims made for electricity as an universal panacea must be exploded, and its real, limited, and narrow horizon of usefulness be well defined. The pernicious effects of so-called cures of reported complicated cases, adhesions, inflammations and the like, by men without training, who look only at the ampèremeter while they adjust a clay pad or introduce a galvanic sound, is not to be overestimated. He had repeatedly shown, by exhibited specimens, the fallacy of the claim of exact diagnosis made by these men, and the arguments are irrefutable. He believed that the only position assumed by the electricians that has the slightest foundation in fact, is that electricity will sometimes control hæmorrhage and relieve pain. That it cures either is not proven.

In dealing with adhesions, the first point to be sought after is to find a crease or crevice, into which some progress can be made. In separating intestinal adhesions, they should be broken as far from the bowel as possible. The farther away the less liable they will be to bleed, and the absence of hæmorrhage is a great comfort in these cases. The strings of adhesions may be dealt with according to their size, it sometimes being best to remove them, at others there is no necessity for this. In doubtful cases their removal is

the better surgery. All bowel adhesions should be carefully examined after their separation. By so doing, fæcal fistulæ will often be avoided by the careful placing of an intestinal suture. It hence is apparent that no pelvic surgery should be attempted until the operator is competent to deal with intestinal wounds even to resection and anastomosis. Once the adherent mass is removed the ligature should be applied close up to the cornu uteri. The ligature should not be so heavy as to resist knotting nor so light as to break easily. The ordinary surgical knot is the safest of all knots with which to tie the pedicle. It constricts more evenly and certainly, and will slip less readily. The leaving of sufficient button is of the greatest importance to prevent slipping of the ligature.

In the treatment of extra-uterine pregnancy his urgent advice is, to operate without delay when the symptoms point to the disease, with the assurance that delay will only complicate matters and sacrifice the life of the mother.

The field of pelvic surgery, said Dr. Price, is not one of experiment or palliation; that it strives in all cases to remove the offending body in order to conserve the rest of the economy; that its tenets are founded on philosophy and fact, not fiction; and that its worth lies in its proven results. The surgery that plucks out the eye or casts aside the limb, to save the eye or the limb or the life, is greater, better and wiser, than a sentiment that preserves a shell to inclose a ruin.

First Day—Afternoon Session.

Dr. W. H. H. Cobb, of Goldsboro, N. C., read a paper on

Supra-pubic Cystotomy in a Case of Enlarged Prostate.

The patient, a farmer, married, aged 49 years, rheumatic diathesis, dated his troubles back to 1881; while attending to the duties of Register of Deeds, he carelessly allowed over-distension of his bladder, and had suffered more or less since that time. In 1882 he had an attack of nephritic colic and passed a small calculus, similar in size and shape to a grain of wheat. On three different occasions he passed dark, gritty deposits. In 1883 he suffered much inconvenience and some pains in urinating. In 1887 he passed a dark, gristly, bloody substance about the size of a corn pea, accompanied by much pain and bloody urine. For the past three years he has suffered much with cystitis in a very aggravated form, with great pain and difficulty in defecation, urine containing much blood, pus and mucus. The patient's efforts to relieve his bladder and bowels were tormenting, and night after night was spent walking over his premises with groanings so severe as to disturb his neighbors. The patient consulted Dr. Cobb June 15th last, and from the history of the case he suspected vesical calculus, but failed on examination with sound to detect any stone. A digital examination, however, per rectum, disclosed the right lobe of prostate greatly enlarged, rough, indurated, exceedingly tender and sensitive. After consultation by letter with Hunter McGuire, he decided upon supra-pubic cystotomy as the only hope of permanent relief, which was done after the method of Dr. McGuire on June 23. At the expiration of two months (August 23) he found the prostate perfectly normal with no symptoms of cystitis and withdrew the plug, allowing the fistula to unite, which it did in about ten days. His patient performs the act of urination and defecation without the slightest trouble, and expressed himself as entirely relieved, and is at present following his usual vocation.

Inflammation in and about the Head of the Colon.

Dr. McMurtry, of Louisville, read a paper on this subject. He said the teachings to be found in systematic treatises on surgery and practical medicine, upon inflammation and its results in and about the *caput coli*, are not only worthless, but positively misleading. This is true not only as to pathology and treatment, but even as to the anatomy and relations of the cæcum and its appendix.

It is well known that inflammatory changes in the vermiform appendix are in almost every case the origin and seat of the inflammatory diseases about the *caput coli*. Inflammation of the cæcum is very rare, yet the testimony of surgeons and pathologists is abundant that in a certain proportion of cases cæcitis, with perforation, occurs without involvement of the appendix. Regnier, in 1886, operated in a case presenting symptoms of intestinal obstruction with peritonitis, doing an abdominal section. At the autopsy cæcitis with perforation was discovered. In 1888, the speaker operated in a case of perforative cæcitis and sutured two perforations in the cæcum. His patient recovered and was present in the Surgical Section of the American Medical Association in May of that year.

Fæcal impaction has been mentioned by surgical writers as a cause of inflammation about the head of the colon. Pain over the cæcum, with a fæcal mass perceptible on pressure often occurs, but rarely, if ever, associated with peritonitis. A few weeks since Dr. McMurtry saw a case in conjunction with Dr. H. H. Grant, of Louisville, in which a localized peritonitis existed in the right iliac fossa, with a well defined firm tumor. Abdominal section was done, and instead of appendicitis, they found the disease to be cancer of the *caput coli*. Irrigation and drainage rescued the patient from the immediate danger begotten by active peritonitis. The patient was a woman

of middle age, and the engrafted peritonitis presented the symptoms of an acute condition. Malignant disease of the cæcum has not, so far as the writer is aware, been mentioned by writers upon this subject as a probable condition in the diagnosis of deep-seated inflammations of the right iliac fossa.

The decision to operate should be determined more by the grade of the inflammation than by the time it has existed. When a diagnosis has been made, and three days have elapsed without subsidence of pulse and temperature, operation should be done.

Dr. McMurtry submitted the following conclusions:

1. Inflammation about the *caput coli* is, as a rule, inflammation of the appendix.

2. A certain proportion of cases will recover spontaneously by resolution. With these recurrence of the disease is common.

3. In the larger proportion the disease will endanger life, and may at any moment assume a condition practically hopeless.

4. Early operative interference involves less danger than delay, and should be resorted to in all cases in which a high grade of inflammation is persistent.

5. The essentials of the operative technique are brief anæsthesia, quick and thorough work, removal of the appendix, irrigation and drainage. The lateral incision is preferable to the median.

FIRST DAY—EVENING SESSION.

PRESIDENT ENGELMANN delivered an address entitled

THE CAUSES OF ILL HEALTH IN AMERICAN GIRLS, AND THE IMPORTANCE OF FEMALE HYGIENE.

He showed that the health of the American girl is threatened and impaired by causes more or less avoidable, as they are due to the methods of life, our methods of training and education; that the physique of this girl, most favorably situated amid auspicious possibilities, is imperfect; her brain over-worked, her nerve power exhausted, her function impaired, and reproduction endangered, all by reason of the susceptibility of her peculiar organization, and the increased impressionability of the sensitive system during the years of development, in which it is subjected to the most severe strain.

The remedy is attention to woman's peculiar organization and the cyclical waves of her dominant function; or, in other words, harmonious development and occupation of nerve and muscle; diminished brain work and nerve stimulation with increased and coördinate physical exercise; increased protection and diminished compression of dress; self-knowledge and individual care during periods of heightened susceptibility. Changes are necessary in custom and fashion, in methods of labor and education. A harmonious co-education of mind and body should be approximated with coincident maintenance of proper hygienic condition.

Dr. Engelmann closed with a plea for the self-care of the American girl and her proper physiological instruction by the mother, which, alone will mitigate or remove the initial cause of many of her ailments. Upon the mother he would impress that the perfect development of the female function, and the maintenance of this function, once developed, in a healthy condition, is essential to the perfect health of the girl and the perfect health of the woman; that self-care, a well-regulated female hygiene, is the foundation of her well being.

SECOND DAY—MORNING SESSION.

DR. C. A. L. REED, of Cincinnati, Ohio, read a paper entitled

INDICATIONS FOR OPERATION IN ECTOPIC GESTATION.

The paper starts out with the assumption that the only proper treatment of ectopic gestation is by laparotomy, or, more properly, cœliotomy. While the profession has become practically unanimous that this is the proper line of treatment, the indications for operation have been less definitely decided upon. This conviction is forced upon the observer, not only by a study of the literature of the subject, but by encountering cases which have been advised against operation by their attending physician, until hæmorrhage within the pelvis has threatened a fatality which is but too frequently realized. The most legitimate excuse for this dilatory practice, is to be found in the confusion which has arisen with regard to the supposed uniform causal relationship of ruptured ectopic gestation to pelvic hæmatocele, and the division of the latter into "primary" and "secondary" rupture. These terms are unfortunate, and, as used in this connection, may be entirely arbitrary. Primary rupture is made to mean rupture beneath the peritoneum, instead of *first* rupture as the etymology of the word would imply, while *secondary* rupture is made to mean rupture within the peritoneum, instead of "second" rupture. Whereas, an intra-peritoneal rupture may be, and frequently is a primary rupture, when spoken of with reference to the sequence of events in ectopic gestation. There would be no serious confusion even here if we were not also taught to leave extra-peritoneal hæmatoceles alone to be taken care of by absorption, and if we did not add that as these hæmatoceles are generally caused by ruptured ectopic gestation sacs, we are to relegate these cases also to the expectant plan of treatment. This conclusion is without warrant, and is responsible for hundreds of deaths annually from this one cause.

The treatment of ectopic gestation premises the diagnosis of this condition. This is obviously difficult, and in the majority of instances cannot be arrived at at all, or, if at all, only presumptively; but in all these cases conditions can be found in the pelvis, which if not conclusively of extra-uterine pregnancy, yet constitute conclusive indications for exploratory operation. The presumption of ectopic pregnancy can be arrived at before rupture, chiefly by a history of previous sterility, by a previous amenorrhœa, followed after a few weeks by irregular hæmorrhage, by increased tumefaction to either side or back of the uterus, and by the existence of false decidua within the uterus. The latter fact may be safely determined by the judicious use of the Emmet curette forceps. The diagnosis after rupture is essentially the diagnosis of internal hæmorrhage. Time wasted either to determine the cause of that hæmorrhage, or to find out if it be primary or secondary, is criminal. The thing to do is to cut down and operate. The position has been taken that time should be taken for the patient to rally from the shock. One of Dr. Reed's own cases died simply because he waited twelve hours for reaction—a lesson which taught him the fallacy of the old teaching, and which has since saved lives at his hands. The best way to overcome shock from internal hæmorrhage is to stimulate the patient by giving ether, stop the drain by ligating the bleeding vessels, and rouse the nervous system by washing out the belly with hot water.

Dr. Reed's conclusions are:

1. The only proper treatment of ectopic gestation is that by abdominal section.

2. The operation should be done in cases before rupture so soon as the condition can be presumptively diagnosed.

3. The operation should be done in cases after rupture so soon as the evidences of internal hæmorrhage become apparent.

4. In cases in which the viability has already been reached without rupture, pregnancy should be allowed to advance to term before operation, but only under the closest possible vigilance.

5. In all cases the appendages from both sides should be removed providing the condition of the patient will justify the extension of the operation.

Dr. Bedford Brown, of Alexandria, Virginia, followed with a paper entitled

THE LOCAL AND GENERAL TREATMENT OF GANGRENOUS WOUNDS AND DISEASES.

Many years ago, previous to the late war, Dr. Brown determined to institute a series of experiments to ascertain the capability of local and general treatment of all gangrenous wounds and diseases that came under his care, either for their prevention or arrest. The object was to find local agents possessing active properties as stimulants of vital action in the affected parts, also as means of disinfecting and deodorizing gangrenous sloughs, hastening their final separation and for the establishment of a healthy basis for granulation. In cases coming under his care he found that the deodorizer failed to accomplish these objects. He then employed a solution (almost saturated) of sulphate of zinc and dilute sulphuric acid as a local application, which seemed to meet all the requirements. The first case in which it was applied was according to the following formula:

℞. Zinci sulphatis, ʒj.
Aquae, Oj.
Acidi sulph. dil. ʒss. M.

After the free application of hot water at 110° the solution was applied every three hours on bats of raw cotton. In the course of two days the sloughs separated rapidly, leaving a perfectly clean, healthy basis for granulation. This solution evidently possesses active antisepsic properties. It is an admirable deodorizer; it is clean and cleanses the parts effectually.

In cases of great loss of sensation in the parts, weak circulation, reduction of vital action, and depressed vitality, he knows of no agents better calculated to arouse nervous action and stagnant circulation, for as soon as the living basement is exposed it gives rise to intolerable pain. He has used this solution in all forms of gangrenous wounds and diseases, some limited, others extensive, and associated with septicæmia, with benefit.

Dr. Brown cited the history of several cases of different varieties of gangrenous wounds and diseases treated by various methods.

Dr. Henry F. Campbell, of Augusta, Georgia, made some impromptu remarks on *Vesico-Vaginal Fistulæ*.

Dr. W. L. Robinson, of Danville, Va., read a paper on

THE TREATMENT OF GENERAL SEPTIC PERITONITIS,

in which he called attention to those cases which tended, by absence of pain and a seemingly improved condition after chill and fever, to mislead as to the necessity of operating, and instanced two cases of recent date seen in consultation in which septic peritonitis and secondary abscess existed in spite of the seemingly favorable condition of the patient. He says that often there is an utter disproportion between the pathological condition and the amount of pain and tenderness,—a condition so often seen in puerperal peritonitis.

He states that traumatic abdominal injuries, appendicitis and pelvic inflammations, are the chief causes of septic peritonitis, while of course any internal or external influence which produces suppuration may be the indirect cause.

He agrees with Dr. G. Frank Lydston, of Chicago, that in children, falls, blows, etc., are the causes generally of peritonitis, and that because

of the age of children in directing attention to the seat of injury we often diagnose the disease too late. Dr. Robinson takes the stand that gonorrhœa is a frequent cause of septic peritonitis and the reason why it did not always produce it was, that it did not invariably invade the uterus, and even when it entered the tubes, the adhesions to the ovary rendered it self-limiting. He holds that section, irrigation and drainage is the treatment, and that where adhesions are extensive that salines should follow the operation in order that the peristaltic action of the bowel would prevent re-formation. Cases occur which, when seen by the surgeon, are too prostrated to undergo a complete operation, and the proper plan is to rapidly do what one can by section, irrigation and drainage. Dr. Robinson instanced a case of recent date in which the patient was saved when seen only *in extremis*. He urges the surgeon to go prepared to resect, anastomose, etc., as complications may indicate. Where conditions are diagnosed which will most likely terminate in septic peritonitis, such as recurring appendicitis, that preventive measures should be undertaken; and where great tympanites exists he would adopt Dr. Davis' mode of opening the bowel and flushing it out with hot water.

DR. JOHN D. S. DAVIS, of Birmingham, Ala., contributed a paper entitled *The Clinical History of the Episcystic Surgical Fistula, with Cases.*

(*To be concluded.*)

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Official Report on the Execution of Kemmler—New York County Medical Association—Academy of Medicine—Sig. Giovanni Succi—Miscellaneous Notes.

Dr. Carlos F. MacDonald, Chairman of the State Commission in Lunacy, who was at the head of the corps of medical witnesses present at the execution of Kemmler by electricity in August last, has only recently made his official report of that event to the Governor. Some of the newspapers, by the way, have objected to the publication of this report, on the ground that it is itself a violation of the new law, which expressly forbids that any accounts of executions conducted under its provisions shall be published. After giving the particulars of the execution and describing the post-mortem examination of Kemmler's body, Dr. MacDonald, in his report, goes on to say:

"Notwithstanding the wide publication of the execution of Kemmler, and the efforts which have been made to proclaim it a failure, and to invest it with an air of repulsion, brutality and horror, it is confidently believed that, when all the facts in the case are rightly understood, the first execution by electricity will be regarded as a successful experiment, and that in time due credit will be accorded to those whose duty required them to act as principals in carrying out the law, the establishment of which is destined, in the not distant future, to be regarded as a step in the direction of a higher civilization. As might have been expected at the first execution by this method, there were certain defects of a minor character in the arrangement and operation of the apparatus which those in charge of the next execution, guided by present experience, will be able to avoid or overcome. But, in spite of these defects, the important fact remains that unconsciousness was instantly effected, and death was painless. When this is understood, together with the additional fact that less than four minutes elapsed from the time the first contact of the current was made to the time the last one was discontinued, and Kemmler was absolutely dead, it will be conceded by all fair-minded persons that the object to be attained, as far as relates to the individual, in the execution of a criminal, namely: sudden and painless death, was fully realized in Kemmler's case. And had the first contact of the current been maintained for full twenty seconds, as first suggested, in all probability there would have been no reflex movement after it was broken, and no unfavorable criticism of the result could then have truthfully been made. The reflex movements referred to were similar to those which have occasionally been observed, for a short time, in animals experimentally killed by electricity, after the current was too quickly interrupted; the animal, however, not recovering consciousness or life. Hence they may properly be regarded as involuntary muscular movements of a reflex character, following the interruption of the current, and in no sense a resumption of normal respiration, however much they may appear to be so to a superficial observer, or to one not familiar with the phenomena in animals above referred to."

At the end of his report Dr. MacDonald makes several suggestions for amendments to the present law, which will secure a more satisfactory regulation of execution by electricity in the future, and among these are the following: That there shall be only one place in the State for executions by electricity, instead of three, as at present; that a separate building shall be constructed for such executions, with suitable cells for the accommodation of criminals awaiting the death penalty; that the dynamo shall be in immediate communication with the execution room, and not a thousand feet distant, as was the case at Auburn; and that the dynamo employed for executions shall be capable of generating an electrical force of 3,000 volts.

At the November meeting of the Society of Medical Jurisprudence and State Medicine, the paper of the evening was a report on the execution of Kemmler by Dr. E. C. Spitzka, who was also one of the witnesses of the execution. He described the scene in detail, and stated that while he was not an advocate of execution by electricity, the guillotine being his preference as a means of inflicting capital punishment, he regarded the evils of that method as much less than the evils of hanging. In Kemmler's case, he said, the Warden was greatly aided by the coolness and pluck of the prisoner in all of the many steps preliminary to the turning on of the electric current. He thought, however, that many of the preliminary steps taken in this instance were unnecessary and should be omitted in future executions.

Among the criticisms that he made of the Auburn execution was that the voltometer did not work at the time of the execution; so that there was no way by which the medical witnesses present were able to tell the voltage of the current. He believed, in fact, that the voltometer was not expected to work; and, as far as he could make out, the strength of the current used on Kemmler was probably about 700 volts. In his opinion, the man was dead within an infinitesimal part of a second after the current was turned on. It was true that convulsive movements followed the introduction of the current into his body, but he had pronounced him dead after the current had been turned on for about seventeen seconds, and he felt perfectly confident that he was correct in doing so. Dr. Spitzka said he was now satisfied that he had made a mistake in ordering the current turned on a second time; but the muscular convulsions and emissions of air by the body threw the spectators into a state bordering on a panic, so that demoralization nearly prevailed in the room.

A phenomenon which is usually regarded as a sign of life Dr. Spitzka observed in Kemmler's body not only shortly after the withdrawal of the current but also several hours afterward, when the autopsy had been made and the brain, heart and other organs had been entirely removed, viz.: the marking of the flesh by pressure with the finger and the subsequent obliteration of the marks thus produced.

Like Dr. MacDonald, Dr. Spitzka favored the amendment of the electrical execution act so that it will provide for the establishment of but a single plant in the State; where all executions shall be carried out under the direction of a competent electrician appointed for the purpose. He agreed with him also that the engine and dynamos used should be especially constructed for the execution of criminals, and that the dynamos should be capable of generating a current of a strength of at least 3,000 volts. He thought that the contact of the current should be made preferably at the back of the neck, and that a collar could be so constructed as to hold the most violent individual steady. The method used in Kemmler's case, he said, was unnecessarily trying to the nerves of the prisoner, and it involved the cutting away of portions of the latter's clothing in order to get at the base of the spine. Should it ever happen that the person to be executed was a woman, this procedure would be attended with much difficulty and embarrassment.

In conclusion he remarked: "The execution of Kemmler was a more decent and dignified execution of the law than any other I have ever seen. That the admission to the chamber of death of persons who had never before seen an execution, and knew nothing whatever of the effect of electricity on the human body, led to many extravagant and erroneous statements, I really believe. There was no warrant in law for the presence of such persons."

Among those who were present at the meeting and discussed Dr. Spitzka's paper was Dr. Macdonald, who stated that the physicians who were summoned to the execution as witnesses were not consulted about any of the arrangements, and they were not permitted to see the source of the current. During the interval between the first and second applications of the current to Kemmler he happened to go into the dynamo room, and was promptly ejected. He agreed with Dr. Spitzka that if the first application had been continued a few seconds longer, no such convulsive movements as were observed would have occurred.

The testimony of two expert witnesses such as Drs. MacDonald and Spitzka, as to the painlessness and instantaneousness of Kemmler's death, is certainly of great importance, especially in view of the fact that in the case of two or three other criminals who are now waiting the death penalty, the most strenuous efforts are being made in the courts to have their sentences set aside on the ground of the cruelty of electrical execution as exemplified in the case of Kemmler.

The recent meeting of the New York State Medical Association, a synopsis of the proceedings of which, as well as the President's able address, have already been published in THE JOURNAL was held for the first time in the newly enlarged Mott Memorial building, where the library of the Association has now been established. The separate papers read were on a great variety of subjects, and as a rule valuable contributions; but the chief interest naturally centered in the formal discussions which have always proved so attractive a feature of these annual meetings. The President elect, the well-known surgeon Dr. Stephen Smith, is the third incumbent of the presidential chair to be chosen from this city, his New York predecessors having been the late Dr. Isaac E. Taylor and Dr. Wm. T. Lusk.

The New York County Medical Association still continues to increase in prosperity. Each

month large accessions are made to its membership and this now amounts to over 550. At the November meeting Dr. J. Lewis Smith read one of his carefully prepared and exhaustive papers, his subject being "Appendicitis, typhlitis, and peri-typhlitis in Children."

The Academy of Medicine is now established in its handsome and commodious building on West 43d street. At the first meeting in November the reports of the delegates to the International Medical Congress, in regard to various departments of medicine and surgery, were read; and at the second November meeting, when the new building was dedicated, the anniversary of the Academy was celebrated with appropriate addresses and much festivity.

Signor Giovanni Succi, the Italian who has distinguished himself by a number of extended fasts in Europe, and whose last achievement in that line has been a reputed fast of forty days recently in London, has entered upon the task of fasting for forty-five days in this city, under the surveillance of a committee of physicians assisted by a corps of medical students. He is 38 years of age, and at the commencement of the fast weighed 147 pounds. His chest, abdominal and limb measurements were also carefully taken at that time. During his fast he allows himself a certain amount of water and also takes as occasion requires a few drops of an anodyne elixir to allay gastric or abdominal pain. He sleeps whenever he feels inclined, and during the rest of the time converses, reads, smokes, plays the piano, and even indulges in such active exercise as fencing. On the second day of the fast he was very nervous and irritable, but in excellent general condition, with a temperature of 98.9, pulse 78 and respiration 23. Tongue clear and steady. During the day he drank fifteen ounces of water and smoked two cigars. His weight had diminished to 138¾ pounds.

On the fifth day his weight was 134 pounds, temperature, 68.4. pulse 60; respiration 20; and he drank 13 ounces of water. On the sixth day his weight was 134 pounds, and he drank 12 ounces of ordinary water and 6 ounces of an alkaline water. On the seventh day he was unusually irritable, but he said he was not hungry. On this day he drank 16 ounces of croton water, and 8 ounces of alkaline water. His weight was 131 pounds; temperature 98°; pulse 84, respiration 22. His tongue was clear, moist and steady, and his muscles still firm.

P. B. P.

MISCELLANY.

THE AMERICAN ACADEMY OF MEDICINE.—The Annual Meeting of the Academy will be held at the College of Physicians, Philadelphia, on Wednesday and Thursday, December 3 and 4, 1890. Papers will be read by Dr. Traill Green, Easton, Pa., on "The Profession's call for a better Preliminary Education of its members;" Dr. Herman B. Allyn, Philadelphia, on "Paralysis following Measles;" Dr. Henry E. Dwight, Philadelphia, on "The Influence of the German Universities upon our Profession;" Dr. W. B. Dewees, Salina, Kansas, "Medical Education that Wins;" Dr. H. O. Marcy, Boston, Mass., "The Coroner System of the United States;" Dr. E. Jackson, Philadelphia, "What can be done to Save the Eyes during School Life?" Dr. Benjamin Lee, Philadelphia, "A Statistical Study of Influenza;" Dr. J. Cheston Morris, Philadelphia, "A Pathological Study of Influenza," also "Interference of Molecular Vibrations as Explanatory of the Phenomena of Zymotic Diseases and Diseases of Nutrition." Papers (titles not yet given) will also be read by Dr. J. E. Davis, of Wisconsin State University, and Dr. David S. Jordan, President Indiana State University, and others. A Report will also be presented by the Secretary, Dr. Richard J. Dunglison, on "Laws Regulating the Practice of Medicine."

Dr. Samuel J. Jones, of Chicago, is President of the Academy, and will deliver his Address at the afternoon session Wednesday, December 3.

The Annual Collation will take place on Tuesday evening.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from November 15, 1890, to November 21, 1890.

First Lieut. Freeman V. Walker, Asst. Surgeon U. S. A. (Ft. D. A. Russell, Wyo.), is granted leave of absence for one month, to take effect on or about the 15th inst. Par. 3, S. O. 85, Dept. Platte, November 11, 1890.

Capt. Chas. M. Gandy, Asst. Surgeon U. S. A. (Ft. Clark, Texas), is granted leave of absence for three months. By direction of the Secretary of War. Par. 10, S. O. 266, A. G. O., Hdqrs. of the Army, November 13, 1890.

Capt. Henry Johnson, Medical Storekeeper, is granted leave of absence from January 1 to March 24, 1891, inclusive, with permission to go beyond sea. By direction of the Acting Secretary of War. Par. 18, S. O. 268, A. G. O., Washington, November 15, 1890.

Capt. John L. Phillips, Asst. Surgeon, is relieved from further duty at Ft. Crawford, Col., to take effect on his relinquishing the unexpired portion of his present leave of absence, and will report in person to the commanding officer at Camp Guthrie, Oklahoma Ter., for duty at that station, reporting by letter to the commanding General, Dept. of the Missouri. By direction of the Acting Secretary of War. Par. 7, S. O. 269, A. G. O., Washington, November 17, 1890.

Capt. Henry G. Burton, Asst. Surgeon, is granted leave of absence for six months on surgeon's certificate of disability, with permission to go beyond sea. By direction of the Acting Secretary of War. Par. 9, S. O. 269, A. G. O., Hdqrs. of the Army, November 17, 1890.

Capt. Edward B. Moseley, Asst. Surgeon U. S. A., is granted leave of absence for one month. S. O. 100, Dept. Texas, November 17, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending November 22, 1890.

Surgeon J. G. Ayers, ordered to the U. S. receiving ship "Wabash."

Sheldon Guthrie Evans, commissioned an Asst. Surgeon in the U. S. Navy.

Medical Director N. L. Bates, ordered as President of Naval Medical Examining Board at Mare Island, Cal.

Surgeon A. M. Moore, ordered as member of Naval Medical Examining Board at Mare Island, Cal.